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Louisiana Herpetology,

WITH A

CHECK-LIST OF THE BATRACHIANS AND REPTILES OF THE STATE

AND

The Avifauna of Louisiana,

WITH

AN ANNOTATED LIST OF THE BIRDS OF THE STATE.

BY

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APPENDIX I.

LOUISIANA HERPETOLOGY.

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The object of the present paper is to serve as an introduction to the herpetology of our State, and to be the foundation of a check-list, which may possibly be enlarged by future additions, after the doubtful forms have been more fully and unquestionably established.

While the study of the Reptiles and Batrachians has found many disciples, and much information in regard to their life-histories, their geographical distribution, etc., has been elicited, there is no class of the animal kingdom of which there still exists such gross ignorance, or which has been, through lack of interest and general observation, subjected to so much superstitious abhorrence as the creatures confined within its accepted limits. Important points of the history of many forms remain unknown to this day, and biologists have striven in vain to clear these obscurities or to controvert purposely exaggerated accounts of popular errors by established facts.

Animal life, it is well known, has been divided into several faunal regions, each exhibiting certain pronounced peculiarities, due to climatic and topographical influences. Thus the peculiar condition of a certain district or realm is reproduced, as it were, in the nature of its living inhabitants.

The North-American or Nearctic realm presents in the distribution of types six well-defined sections or subdivisions, which are commonly known as the Eastern, Central, Pacific, Sonoran, Lower Californian and Austro-riparian regions, all of which present marked peculiarities, either in an abundance, or a total absence of certain forms. The latter region comprises North Carolina, Georgia, Tennessee, Florida, Alabama, Mississippi, Louisiana and Texas, and in it we find the greatest development of eastern reptile life. A number of genera are confined to its boundaries, while the Eastern region possesses no forms exclusively its own; all genera being distributed over some, or all of the other regions.

The reptiles which are distinctly peculiar to the Austro-riparian region embrace some 25 genera, a few of which are also representatives of the Neotropic realm. The Louisiana

district exhibits all the characteristics of the Austro-riparian region, lacking, however, to some extent, those of Texas and Florida. The entire reptilian fauna of the State may be said to be represented by about 114 species, belonging to 56 genera; representing 25 families in 8 orders. It is possible, however, that this list may be considerably augmented by species which are, so far, supposed to be confined to the Florida and Texas districts. In general, the enumeration may be accepted as adequately correct, for the species of this class are, more or less, confined to their native localities, as migration, in the stricter acceptation of the term, can scarcely be ascribed to any reptile. Aquatic forms may gain considerable distribution by means of their element, but beyond that they would encounter obstacles over which wings only could transport them. On the other hand, terrestrial forms would be even more effectually checked in their attempts to extend their original habitat. It is true, however, that a certain species may occur in localities which are separated by apparently insurmountable obstacles, and we can only account for such an instance by the supposition that at one time or other such barriers did not exist.

Certain localities of our state are marked either by an entire absence, or a greater abundance of forms. The southern section presents marked features in this respect in aquatic types of Ophidians. Here, also, the alligators are present in greater numbers, while the Testudinata, in general, are almost entirely confined to Southern Louisiana. The hilly parts, the pine-flats and pine-hills have each their peculiar representatives. The majority of the Lacertilia, the only Proteroglyph, as well as all Solenoglyph snakes, with one exception, are found in far the greater number in upper Louisiana. Isolated and prominent in these respects stands Avery Island [Petit Anse] as a kind of haven for almost the entire reptile world of the state. Surrounded by immense tracts of marshes and swamps, in themselves a congenial habitat for the more or less aquatic types, this hilly, forest-covered island harbors almost all the more terrestrial forms. In fact, this comparatively small area is an ideal paradise for the ornithologist as well as the herpetologist. Comparing the natural topography of upper Louisiana and its identic forms, with this small island on the extreme southwestern coast, and considering [for some reptiles] the almost insurmountable regions which intervene, we have an illustration of such a distribution, which we can only explain by a formerly non-existing separation of the two localities.

In regard to distribution of the reptilian fauna of the state, it will be advisable to proceed in the order of systematic classification.

The Batrachians are represented by four orders: the *Proteida, Trachystomata, Urodela and Salientia.*

With the exception of the European species, the *Proteus anguinus* [the "Olm" of the Germans], the American *Necturus maculatus* furnishes us the only animal which may really and truly be termed amphibious. The larval gills being persistent, it can live independently either in or out of the water at any period of its life.

The Trachystomata are represented in Louisiana by two genera, each with but one species—*Siren lacertina* and *Cryptobranchus allegheniensis.*

The tailed Batrachians, or Urodela, are typified by a number of highly interesting forms belonging to five families. The well known and unjustly supposed poisonous Congo Eel belongs to this order. Several species of *Amblystoma* are popularly known as "Ground Puppies," and are to be found under decaying logs in almost every part of the state. The *Desmognathidæ* furnish the student a species of Salamander [*Desmognathus fusca*], which is remarkable for the peculiar care which the male takes of the ova. The eggs, connected by an albuminous covering which soon dries and shrivels up, are wrapped like a string of beads around the body, and carried by the male until hatched. The same procedure is performed by the male of the well known "Geburtshelfer Kröte" [*Alytes obstetricans*] of middle Germany.

Last, but not least, we must now consider the remaining order of Batrachians: the tailless or *Anura*, among which we may recognize many of the midnight musicians of our swamps and bayous.

The frogs and toads have been classified by investigators into four sub-orders: the *Bufoniformia*, or true toads; the *Arcifera*, with the spade-foot and tree frogs; the *Firmisternia*, with a single genus and species [*Engystoma carolinense*], the Carolina tree toad, and lastly the true frogs [*Raniformia*], with but a single genus, furnishing the bandmaster par excellence—the bull frog [*Rana catesbiana*].

A few remarks on the toxic qualities of some of the members of both the *Urodela* and *Anura* may not be out of place. That the secretions, especially of the parotid glands of the salamanders and toads, contain poisonous principles [irritating chiefly all mucous linings with which the secretion

is brought in contact], there can be no doubt, but its virulence has been greatly exaggerated. The animals have not even the power of using the secretion in the offensive. Upon some animals [some reptiles for instance] it has no effect, even if introduced into the stomach. I know of no animal or bird which feeds on toads or salamanders, and certain snakes, while even feeding on other *Anura*, will rather perish by starvation than swallow a toad. Our common "hognose" or spreading adder, on the other hand, prefers toads to other food. The secretion is milky and viscid, and has a sharp, bitter taste. Introduced into the stomach of small animals it causes restlessness, trembling, sometimes vomiting and finally convulsions and death.

With the approach of spring, the active life of one of the most dreaded classes of the animal kingdom, [that of the Reptiles], which during the winter months had been almost suspended, is ushered in and enters into full operation. Although the dread which attaches to these animals, especially in the more temperate regions; is greatly exaggerated, there are, however, a number of them found in our midst which, on account of their poisonous qualities, must be feared. In the entire class of reptiles but one order, the Ophidians, contains these dangerous creatures. In our state they are restricted to the small number of six species, and all are easily distinguished from their harmless and, in many instances, useful congeners.

So far as I have been able to determine, forty-seven species of snakes are to be found in Louisiana, but, as I have stated, only six are venomous, and no matter what the deportment of some of the rest may be, they need not be feared, nor will any ill effects arise from their bites.

Considering first the venomous members of the order, [which has been divided into two groups]: the *Proteroglypha*, or such in which the poison fangs are immovably attached to the upper maxilla and fit into corresponding grooves of the inferior one.

This group is represented in Louisiana by but one species—the Harlequin snake *(Elaps fulvius)*. It is a conspicuously marked reptile, but by no means very commonly encountered, by reason of its burrowing habits. It is generally found in decaying logs. While other members of the genus are extremely dangerous, this cannot be said of our Harlequin snake. The structure of the poison-fangs is different from that of the *Solenoglypha*. In *Elaps* the tooth is

really perforated like a tube, whereas in the Solenoglyph snakes the fangs are grooved anteriorly, but the edges of the groove are anchylosed in their middle portion, leaving the fangs open in front, above and below.

Solenoglyph snakes are such as are able to erect or depress the poison-fangs at will. The members of this suborder found in Louisiana, and in fact on the entire western continent, belong to the division of *Bothrophora* or Pit-vipers. The existence of a peculiar deep depression, situated between the nostril and eye, distinguishes them from the *Abothrophora*—Solenoglyph snakes of the Old World.

The *Solenoglypha* are represented by three genera of the family *Crotalidae*, or Rattlesnakes: *Crotalus*, *Sistrurus* and *Agkistrodon*.

The genus *Crotalus* gives us two of the largest and most dangerous of the Ophidians, not only for our state but for the entire North American continent. In fact, *Crotalus adamanteus* stands not behind in size to the most dangerous of all snakes of the western hemisphere, the terrible "Fer-de-lance" of Martinique and Guadeloupe and its darker congener of the Central American continent.

The chief locality in which I have met the Diamond Rattler is St. Tammany parish; in the hummock lands which border the pine-flats on the one side and the water-courses on the other. The largest I obtained there several years ago measured six feet, three inches in length, by a trifle over four inches in diameter. While this measurement is considerably above the average, Florida specimens of over eight feet in length are claimed to have been taken. Like all of our poisonous snakes, the Diamond Rattlers, especially the larger ones, are becoming rarer and rarer as the reclamation of our forests and swamps is extended. After the first shock upon unexpectedly meeting this reptile is overcome, and its almost continually moving coils, with the really graceful position of the head and neck, are watched, any one must admit that there is something beautiful even in this dangerous creature. The contour of the head is somewhat more obtuse than that of the Cane Rattler [*Crotalus horridus*]. It is shorter and thicker, and the venom glands are more prominently outlined. The eyes are small and emit, when the animal is alarmed or enraged, an ominous glitter, but the idea that the snake [or for that matter any others of this order] possesses the power of charming is, of course, erroneous. Fright on seeing the

death-dealing serpent so close at hand seems to deprive man and animal alike of all power of thought and locomotion, and very often the next instant the fatal stroke or thrust [but not bite] is delivered. The action of the stroke is lightning-like, and must be seen to be appreciated. I have repeatedly seen small animals succumb instantaneously to the influence of the poison. A squeak, a few tremors passing through the body, and the thread of life was cut asunder. Even hunting dogs, which are frequently bitten by our Water Moccasin [*Agkistrodon piscivorus*] without exhibiting more than some distress and uneasiness attended for some hours by swelling, succumb quickly to the venom of our rattlesnakes.

A few words explanatory of the apparatus which conveys the fearful fluid may be in order. It may be divided into three essential parts: the gland itself; a short canal or tube and the fang. The latter is the hypodermic needle and the gland and canal the hypodermic bulb-syringe.

The principal bones of the poison apparatus are the external pterygoid, the internal pterygoid, the palatal, the maxillary and the lachrymal. The spheno-pterygoid elevates the fang; the ecto-pterygoid depresses the fang, which, when not erected, is hidden by a thick fold of skin—the vagina dentis. The gland is situated at the base of the skull, between the quadrate bone and inferior maxilla. The canal, which first bends upwards and then downwards, does not form a continuation of the cavity of the fang, but opens independently on the surface of the maxillary bone. The venom is prevented from being wasted by the tightening of the vagina dentis, and forced by it to flow into and through the anchylosed canal of the fang. The gland, being enveloped by a coating of unstriated muscles, contracts and discharges some of its contents at the moment the action of thrust is performed.

The venom itself is but a modification of the saliva in other animals, and certainly proves a most powerful and rapid digestive agent by causing putrefaction of the animal substances. The color of the poison varies from very pale to deep yellow. Exposed to the air it dries rapidly, and on glass has the appearance of varnish, but, unlike it or any similar liquid, cracking in a very characteristic manner. In dessicated form, or mixed with alcohol or glycerine, it will retain its vitality indefinitely without losing any of its strength. If fresh venom be allowed to stand undisturbed in a vial for some time, it becomes cloudy and finally a sediment will form at the bottom, consisting of epithelial cells, micrococci and both red

and white corpuscles. Introduced into an animal these solid parts produce no effects, but the clear liquid continues to act as if it had not been separated from the former substances. Venom is really a compound, consisting of several [at least two] proteids, either of which is sufficient to cause death, acting differently however upon the system. The percentage of the proteids in the compound is different, not only in different species, but in individuals. This, of course, explains the reason why the successive symptoms as well as the attending results are subject to such great variation. Moreover, the influence of the venom upon the system is so exceedingly rapid and powerful, and manifests itself in such different ways, that it appears almost beyond our power to combat with certainty in all cases the inroads of the disease. Snake poison introduced into a warm-blooded animal may induce death through several affections. It may occur through paralysis of the heart; through hemorrhages of the spinal cord, or rather the medulla; through the thoroughly altered condition of the red corpuscles, which through losing their biconcave form, are prevented from oxygenating the vital fluid, and lastly and generally through paralysis of the respiratory nerve-centers, or, in other words, suffocation.

The venom of the five Solenoglyph serpents of Louisiana may be graded successively as follows: the most powerful that of *Crotalus adamanteus;* secondly, that of *C. horridus*, followed by *Sistrurus miliarius*, which only stands behind in the case of actual bite, on account of the inferior size of the animal, but which administered in equal doses is about as rapidly acting as the venom of *C. horridus.* The poison of *Agkistrodon contortrix* is somewhat slower in action than the others; that of *A. piscivorus* is about of the same strength but somewhat below in standard.

The non-venomous snakes, or *Asinea* constitute by far the largest number of the reptiles of the state. All of them, however, belong to one family [*Colubridae*] of 15 genera and 41 species. Page upon page might be devoted to a description of the various and, at times, highly interesting forms, but that is not the object of this paper.

The second order [*Lacertilia*] is, with one exception, less represented than any. Louisiana has but eight species of lizards, showing, however, a great diversity of forms in the five families into which they are placed. The well-known forms of *Anolis* and *Sceloporus* give us the types of true lizards, but the uninitiated would scarcely recognize a lizard in

our common Glass-snake [*Ophcosaurus ventralis*]. There is no need of my entering into a refutation of the exaggerated accounts of reproduction, such as if a Glass-snake be cut into several pieces, each portion will become a new individual. The species simply does not belong to the Cœlenterates or Sea-anemones.

Twenty-three species of turtles, with possibly a few future additions, constitute the fauna of the order of *Testudinata* in Louisiana. From the immense Loggerhead down to the small Mudbox, a great variety of structure is displayed. Of the six families of turtles of North America, five occur in our state, and it is even possible that the sixth does occasionally occur on our coast-line in one or another species of Sea turtles.

The *Trionychidae* [Soft-shell turtles] are exceedingly common in most of our rivers and bayous. For the Swamp-turtles our state is pre-eminently the home. In some localities it is impossible to pass along a water-course without seeing numbers of them basking on floating logs or lying on the banks. During a drought, when the swamps have dried out, and only the holes of alligators contain water, then is the time for the collector. Several years ago I took 35 specimens of *Pseudemys troostii* from one small alligator hole in St. Tammany parish.

The last reptile which we have to consider, is also the sole representative of the order of *Crocodilia*. The family *Crocodilidae* consists of only two genera: *Alligator* and *Crocodilus*. While I have heard occasional reports of the occurrence of the American Crocodile in our state, I have never been able to verify the statements, and I firmly believe that we will have to content ourselves with the fast disappearing Alligator [*Alligator mississippiensis*]. The persecution to which this animal has been subjected during the past twenty-five years has reduced its numbers to an astonishing degree. In twenty-five more years, alligators captured in Louisiana will be somewhat of a curiosity. The accounts of the size of some individuals of this species are greatly exaggerated. Animals of more than twelve feet in length have been very rare for many years. One captured in Bayou Lafourche during the summer of 1884 measured fourteen feet, nine inches, and was then considered a monster of its kind.

In conclusion I wish to record my thanks for the great assistance rendered me by Mr. Gustave Kohn, of New Orleans, who has generously placed his large collection of local material and personal data at my disposal in the preparation of the subjoined check-list.

CHECK-LIST OF THE BATRACHIANS AND REPTILES OF LOUISIANA.

BATRACHIA

Order PROTEIDA.

Family PROTEIDÆ.

1. **Necturus maculatus** Rafinesque. *Lake Siren; Proteus.*

This species seems to occupy a very restricted area in Louisiana. I have collected it once only—in Caldwell parish. In the southern parts it does not seem to exist at all.

Order TRACHYSTOMATA.

Family SIRENIDÆ.

2. **Siren lacertina** Linn. *Mud Eel; Siren.*

I believe this species occurs only in middle and northwestern Louisiana. It has, thus far, never been reported from the southern parishes.

Family CRYPTOBRANCHIDÆ.

3. **Cryptobranchus allegheniensis** Daud. *Hellbender.*

I have never obtained this form in the state, but it has been found in several of the northern parishes. Specimens

from Prairie Mer Rouge are in the United States National Museum.

Order URODELA.

Family AMBLYSTOMIDÆ.

4. **Amblystoma talpoideum** Holb. *Tadpole; Salamander.*

As a rule, not so common as the following three species. It is found under logs and stones, in wet places in the higher parts of the state.

5. **Amblystoma opacum** Gravenhorst. *Marbled Salamander.*

Occurs in the same localities as the preceding species.

6. **Amblystoma punctatum** Linn. *Spotted Salamander.*

This species is, by far, the most common in the state. Known wherever it occurs as "Ground Puppy."

7. **Amblystoma tigrinum** Green. *Tiger Salamander.*

Resembling very much the former, it is, however, somewhat larger and heavier. Its range is much the same, and it is common wherever found.

8. **Chondrotus microstomus** Cope. *Porphyry Salamander.*

Very common in several sections of the state.

Family PLETHODONTIDÆ.

9. **Plethodon glutinosus** Green. *Slimy Salamander.*

This species I have found only in single instances—in northwestern Louisiana. Mr. Gustave Kohn, however, reports it as common in St. Tammany parish.

10. **Manculus quadridigitatus** Holb. *Four-fingered Salamander.*

This exceedingly small species is (according to Mr. Kohn) very plentiful in some parts of St. Tammany parish. It undoubtedly exists in other sections of the state, but, so far, I have not discovered it.

11. **Spelerpes bilineatus** Green. *Green's Triton.*

Mr. Kohn's records are, thus far, the only ones I have on this Triton. He obtained his specimens in the vicinity of Mandeville.

12. **Spelerpes guttolineatus** Holb. *Holbrook's Triton.*

I have obtained only a single individual of this species—near Como. Consequently I have no idea whether it is common or not.

13. **Spelerpes ruber** Daud. *Red Triton.*

This exceedingly handsome Triton may be said to be fairly common. I have collected it in St. Tammany Parish,

but found it rather more common in northwestern Louisiana.

Family DESMOGNATHIDÆ.

14. **Desmognathus fusca** Raf. *Brown Triton.*

Exceedingly common in almost every section of the state.

Family PLEURODELIDÆ.

15. **Diemyctylus viridescens** Raf. *Green Triton.*

This pretty Triton is very common in the clear water-courses of northwest Louisiana. Unlike other Tritons, it is never found on land hidden under stones or logs. Mr. Kohn reports it from Mandeville as common.

Family AMPHIUMIDÆ.

16. **Amphiuma means** Gard. *Amphiuma, Congo Eel.*

This large and unprepossessing species is abundantly distributed over the state; known and unjustly dreaded by everyone, as its large and popular nomenclature testifies. In the southern sections of the state it is particularly abundant, and known as "Congo Eel," "Blind Eel" or "Congo Snake."

SALIENTIA.

Order BUFONIFORMIA.

Family BUFONIDÆ.

17. **Bufo lentiginosus americanus** Lec. *Common Toad.*

This species of toad is abundantly distributed over the state; the most arid pine-flats, as well as the high lands affording it congenial habitat.

18. **Bufo lentiginosus lentiginosus** Shaw. *Latreille's Toad.*

Like the preceding, abundant everywhere.

19. **Bufo valliceps** Wiegm. *Nebulous Toad.*

Reported as common from New Orleans by Dr. R. W. Shufeldt; from Baton Rouge by Prof. King, and by G. Wurdemann from Calcasieu Pass. Notwithstanding, neither Mr. Kohn nor myself have, so far, taken it in Louisiana.*

*Two specimens have since (July, 1899) been taken by me at Como, La.--G. E. B.

Order ARCIFERA.

Family SCAPHIOPIDÆ.

20. **Scaphiopus holbrookii** Harlan. *Holbrook's Spade-foot.*

Locally confined; not as common in the state as the other toads. I have collected it in Franklin parish. Mr. Kohn reports it from the vicinity of Mandeville.

Family HYLIDAE.

21. **Acris gryllus gryllus** Le Conte. *Cricket Frog.*

Abundant in many parts of the state, preferring, however, the hummock lands.

22. **Acris gryllus crepitans** Baird *Western Cricket Frog.*

Scarcely to be distinguished from the preceding; equally as plentiful, and frequenting the same localities. Intermediate forms between *A. gryllus gryllus* and *A. gryllus crepitans* are very common, rendering definite identification difficult.

23. **Chorophilus nigritus** Le Conte. *Black Tree Frog.*

Exceedingly common.

24. **Chorophilus feriarum** Baird. *Tree Frog.*

Like the preceding species, exceedingly common.

25. **Hyla pickeringii** Storer. *Pickering's Tree Toad.*

Common in all sections.

26 **Hyla squirella** Bosc. *Tree Toad.*

Very common in nearly every part of the state, especially so in the low and marshy sections. In and about New Orleans it is the most abundant of all tree-toads.

27. **Hyla carolinensis** Pennant. *Carolina Tree Toad.*

Abundant everywhere.

28. **Hyla femoralis** Latr. *Femoral Tree Toad.*

Not common, at least not as much so as the other species of tree-toads of the state. Mr. Kohn secured specimens in St. Tammany parish.

29. **Hyla versicolor** Le Conte. *Changeable Tree Toad.*

Scarce in the marshy sections, it is, however, abundant in all other parts of the state.

Order FIRMISTERNIA.

Family ENGYSTOMIDÆ.

30. **Engystoma carolinense** Holbrook. *Carolina Tree Frog.*

Common in all parts of the state. Being extremely shy, it is rarely noticed unless looked for.

Order RANIFORMIA.
Family RANIDÆ.

31. **Rana pipiens** Gmelin. *Common Water Frog.*

Abundant in all parts of the state in suitable localities.

32. **Rana palustris** Le Conte. *Swamp Frog.*

Not quite as common as the preceding, occurring, however, nearly all over the state.

(33. **Rana areolata areolata** Bd & Gir. *Texas Frog.*

This species was discovered in July, 1899, at Como, Franklin parish, under a plank in a yard. A second and third specimen were taken a few weeks later in the same yard in an old well. These are, so far, the only records for this species for Louisiana).

34. **Rana clamata** Daudin. *Spring Frog.*

Very common in all sections; not collecting in numbers like *R. pipiens*, it never appears as abundant as the latter.

35. **Rana catesbiana** Shaw. *Bull Frog.*

This, the best known and largest of all our frogs, is found in nearly every section of the state, most abundantly, however in the southern.

REPTILIA.

Order OPHIDIA.

Sub-order ASINEA.

Family COLUBRIDÆ.

1. **Carphophiops amoenus** Say. *Worm Snake.*

This small snake is not rare in some parts of the state. It escapes notice, however, through its retired life under decaying logs. I have found it near Madisonville, St. Tammany parish.

2. **Carphophiops vermis** Kennicott. *Western Worm Snake.*

In size and appearance similar to the preceding; living in the same locations, but not quite as common.

3. **Tantilla coronata** Bd. and Gir. *Crowned Tantilla.*

This small and insignificant looking snake is probably the only representative of the Ophistoglyphs in our state.

So far, neither Mr. Kohn nor myself have taken it in Louisiana, but it is reported as fairly common in the northwestern section. It is generally found under logs.

4. **Cemophora coccinea** Blumenbach. *Scarlet Snake.*

Not common, it occurs, however, in nearly every part of the state, except the extreme southern portion.

5. **Farancia abacura** Holbrook. *Horn Snake.*

Not found in the higher sections, but in some places in the lower, very common. In the vicinity of New Orleans it is abundant. There is no snake about which more popular errors and absurdities are circulated than this.

6. **Lampropeltis coccineus** Schleg. *Red King Snake.*

In the hummocks bordering on the pine regions, this reptile is very conspicuous and fairly common.

7. **Lampropeltis syspilus** Cope. *Red King Snake.*

Greatly resembling the preceding, it shares with it the same localities and is fairly common.

8. **Lampropeltis doliatus** Linn. *Scarlet King Snake.*

Of the red, black and yellow-ringed King snakes, this species is the most common, occurring in almost every part of the state. Burrowing in the sandy soil, it is frequently brought to notice by the plow.

9. **Lampropeltis clericus** Bd. & Gir. *Red King Snake.*

Probably of the same distribution as the preceding. Mr. Kohn obtained this species from the vicinity of Mandeville.

10. **Lampropeltis sayi** Holbrook. *King Snake.*

Abundant in lower Louisiana; less so in the higher sections.

11. **Diadophis punctatus** Linn. *Ring-necked Snake.*

Common enough in most parts of the state, but easily overlooked on account of its diminutive size.

12. **Diadophis stictogenys** Cope. *Texas Ring-necked Snake.*

Resembling the preceding it also shares the same habitat. Common.

13. **Cyclophis aestivus** Linn. *Southern Green Snake.*

Generally abundant in such localities where it occurs. While its distribution in the state is general, it is absent from some localities.

14. **Bascanium constrictor** Linn. *Black Runner; Black Racer; Blue Runner.*

Of the terrestial snakes, this species is probably the most abundant and best known in the state; occurring in two color

phases, a black one, restricted to high and dry regions, and a pinkish or bluish-gray phase in the swamp lands.

15. **Bascanium flagellum** Shaw. *Coach Whip.*

I have seen this species but once in the course of fifteen years on the east side of the Mississippi. It is, however, very common west of the river. In some parts of Catahoula and Nachitoches it is abundant.

16. **Coluber guttatus** Linn. *Chicken Snake.*

Fairly common in the pine-wood regions, often entering houses and frightening the occupants by making an empty pot on the kitchen shelf its temporary domicile. It is not found in the swamp lands, being strictly terrestrial in its habits.

17. **Coluber obsoletus obsoletus** Say. *Black Chicken Snake.*

Rather a rare snake, at least more so than any of the Colubers of the state. Mr. Kohn has obtained it from St. Tammany parish.

18. **Coluber obsoletus confinis** Bd. and Gir. *Live Oak Snake.*

One of the commonest of our Colubers. It is especially met with in the swamp lands, where its favorite position is to lie at full length in the tops of tall grasses and canes. It is one of our longest snakes.

19. **Coluber spiloides** Dum. & Bibr. *Red-headed Chicken Snake.*

Fairly common. I have found it on Avery's Island and in the vicinity of New Orleans. Unlike the preceding, it is ess aquatic in its habits.

20. **Spilotes corais couperii** Holbrook. *Indigo Snake.*

Although I have never met with this snake in Louisiana, it is certainly to be found within its precincts, if not commonly. It has been collected in all other Gulf states, from Texas to Florida.

21. **Heterodon platyrhinus** Latr. Hog-nose; *Spreading Adder.*

A strictly terrestial species; generally distributed throughout the state, and common.

22. **Heterodon platyrhinus niger** Latr. *Black Viper.*

In habits and distribution the same as the preceding, but less common.

23. **Heterodon simus** Linn. *Sand Viper.*

I have obtained but one specimen of the Sand Viper in the state. I secured it in Washington parish not far from Franklinton. I have no doubt of its being fairly common there.

24. **Thamnophis proxima** Say. *Garter Snake.*

One of the most numerous of all snakes of Louisiana. Occurring in all parts of the state, but is very partial to the proximity of water.

25. **Thamnophis sirtalis** Linn. *Garter Snake; Striped Snake.*

Nearly as common as *T. Proxima* and as equally distributed.

26. **Thamnophis sirtalis dorsalis** Bd. and Gir. *Churchill's Garter Snake.*

During two successive summers I collected this species in the city of New Orleans. I kept them alive on account of their exceedingly handsome markings, and especially distinct red dorsal stripe. Since then [1892 and 1893] I have not succeeded in getting other specimens, the old locality having been built up in recent years.

27. **Thamnophis saurita** Linn. *Ribbon Snake.*

Notwithstanding this species being known to belong to the Austro-riparian region, I have never succeeded in obtaining it in the state.

28. **Natrix grahamii** Bd. and Gir. *Graham's Water Snake.*

Very common in the southern section of the state; in the vicinity of New Orleans one of the most abundant of water snakes. I have not found it in northern Louisiana.

29. **Natrix rigida** Say. *Brown Water Snake.*

Not quite as common as the preceding, but having about the same range. I have found it quite numerous along the shores of Lake Catawatchi and Lake Salvador.

30 **Natrix clarkii** Bd. and Gir. *Clark's Water Snake.*

Not common. Strictly confined to the southern section.

31. **Natrix fasciata fasciata** Linn. *Banded Water Snake.*

Generally distributed throughout the state, and exceedingly common everywhere. It is represented by several color varieties, which have been made into sub-species, but scarcely merit such elevation, since the characteristic differences from the type are exceedingly variable and intergrading. I have, however, included the different varieties in this catalogue but it is impossible to define any geographical range.

32 **Natrix fasciata sipedon** Linn. *Water Moccasin.*

33. **Natrix fasciata pleuralis** Cope. *Water Snake.*

34. **Natrix fasciata transversa** Hallow. *Woodhouse's Water Snake.*

35. **Natrix fasciata erythrogaster** Shaw. *Red-bellied Water Snake.*

This last mentioned variety seems to be the most com-

mon, as well as the most constant of the four; occurring principally in the southern parts.

36. **Natrix rhombifera** Hallow. *Holbrook's Water Snake.*

Abundant, especially in the southern section. In the vicinity of New Orleans there is scarcely a water-hole that is not inhabited by an individual of this species.

37. **Natrix cyclopium** Dum. and Bibr. *Water Snake.*

Very rare, and apparently confined to the southern parts of the state.

38. **Natrix taxispilota** Holbrook. *Brown Water Snake; Aspic.*

Common throughout the state; conspicuous by its coloring and size.

39. **Storeria deKayi** Holbrook. *Brown Grass Snake.*

Abundant throughout the state.

40. **Storeria occipitomaculata** Storer. *Storer's Grass Snake.*

Not very common, nor is it as generally distributed. Unlike the preceding, it apparently prefers the pine regions.

41. **Haldea striatula** Linn. *Brown Snake.*

A small worm-like snake, fairly common under decaying logs in most parts of the state.

Sub-order PROTEROGLYPHA.

Family ELAPIDÆ.

42. **Elaps fulvius** Linn. *Harlequin Snake.*

This sole representative of the Proteroglypha is generally distributed throughout the state, the swamp and marsh regions excepted. In the hummock lands it is not uncommon, but, nevertheless, is only accidentally met with. Rotten logs and stumps are its favorite hiding places. The oft repeated paragraph of Holbrook in regard to the habits of the Harlequin snake, that "it is found underground in the sweet potato fields, and is frequently dug up by the laborers when harvesting," seems to be founded on mistaken identity. This habit belongs decidedly to the similarly colored species of *Lampropeltis* but not to *Elaps*. *Lampropeltis doliatus* and *L. syspilus* I have obtained dozens of times in the manner related by Holbrook, never once a Harlequin or "Thunder and Lightning" snake.

Sub-order SOLENOGLYPHA.

Family CROTALIDÆ.

43. **Agkistrodon contortrix** Linn. *Copperhead; Highland Moccasin.*

Once abundant throughout the state, this species has

now almost entirely disappeared from some localities. In the marshy sections it does not occur at all, and in the open pine regions it is rare. Its favorite haunts are the hummocks, cane-brakes and old fields. It is still very common on Avery's Island.

44. **Agkistrodon piscivorus** Lac. *Water Moccasin.*

Very abundant in lower Louisiana, especially on the prairies and in gum swamps. In the rice fields it is dreaded by the negroes, by whom it is called "Cotton-mouth," on account of its peculiar habit of spreading the mouth wide open upon being disturbed. Against the dark brown color of the reptile, the pale pink mouth appears perfectly white, like an open boll of cotton.

45. **Sistrurus miliarius** Linn. *Ground Rattlesnake.*

Preferring dry localities for its habitat, this snake is absent from the swampy and marshy sections. In the pine regions and hummocks it is fairly common, living among leaves and other rubbish, and thereby escaping notice.

46. **Crotalus horridus** Linn. *Banded Rattlesnake.*

Throughout the pine regions, in cane-fields and old fields overgrown with young trees and weeds, the Cane Rattler is still fairly common, but in the more thickly populated sections it has become rare.

47. **Crotalus adamanteus** Beauv. *Diamond Rattlesnake.*

This, one of the largest of the venomous snakes of the western hemisphere, occurs only [according to my observations] in the southern portion of the Florida parishes, and along the east bank of the Mississippi. I have never found it west of that river, and I doubt its occurrence there. I have caught several near Madisonville, St. Tammany parish, in the hummocks along the margins of the gum swamps. Unlike the Cane Rattler, this species is very fond of the vicinity of water. Both species are in the habit of coiling themselves up alongside a fallen tree, and many persons have thus narrowly escaped stepping on the snake on the other side of the log.

Order LACERTILIA.

Family SCINCIDÆ.

1. **Oligosoma laterale** Say. *Ground Lizard.*

This little creature is abundant everywhere; unjustly decried as poisonous and invested with the misnomer "Scorpion."

2. **Eumeces fasciatus** Linn. *Blue-tailed Lizard; Red-headed Skink.*

Like the preceding, abundant everywhere and absurdly believed to be poisonous. It also bears the name "Scorpion."

Family TEIIDÆ.

3. **Cnemidophorus sexlineatus** Linn. *Six-striped Lizard.*

The least common of the lizards of Louisiana, and occurring only in the sandy pine regions.

Family ANGUIDÆ.

4. **Opheosaurus ventralis** Daudin. *Glass Snake.*

This well-known reptile is common in nearly all parts of the state, escaping detection, however, on account of its burrowing habits.

Family IGUANIDÆ.

5. **Sceloporus undulatus** Harlan. *Alligator Lizard.*

Abundant in the pine woods; especially fond of rail fences and deserted houses.

6. **Sceloporus floridanus** Bd. *Florida Alligator Lizard.*

In general appearance, much like the preceding, but larger. I have found this species only in the swampy hummocks of West Feliciana, where it is fairly common.

7. **Phrynosoma cornutum** Harlan. *Horned Lizard; Horned Toad.*

This lizard occurs only in the northwestern section of the state. It is reported from the vicinity of Monroe as fairly common.

Family ANOLIDÆ.

8. **Anolis carolinensis** Linn. *Green Lizard; Chameleon.*

The most abundant of all the lizards of Louisiana; occurring in all sections, irrespective of topographical characters.

Order TESTUDINATA.

Sub-order CRYPTODIRA.

Family TRIONYCHIDÆ.

1. **Aspidonectus asper** Agassiz. *Soft-shelled Turtle.*

Abundant in all inland waters, preferring, however, such bayous which have sloping and sandy banks, upon which they are fond of sunning themselves.

2. **Aspidonectus emoryi** Agassiz. *Emory's Soft-shelled Turtle.*

In habits and distribution much the same as preceding; equally common in northern Louisiana as it is farther south.

Family CHELYDRIDÆ.

3. **Chelydra serpentina** Linn. *Snapping Turtle.*

Common in all parts of the state; occurring principally in the larger rivers and bayous.

4. **Macrochelys lacertina** Schweigger. *Logger-head; Caouana.*

Just as common as the preceding, and having the same distribution.

Family KINOSTERNIDÆ.

5. **Kinosternum louisianae** Baur. *Mudbox.*

Common throughout the state, especially in the flat and swampy sections.

6. **Aromochelys tristycha** (Latr.) Gray. *Stink-pot.*

Common throughout the state in the sluggish bayous and gum-swamps.

7. **Aromochelys carinata** Gray. *Musk Turtle.*

Occurring in the same localities as the preceding. Common.

Family EMYDIDÆ.

8. **Pseudemys concinna** Le Conte. *Florida Cooter.*

Common in the southern portions; rarer inland, excepting in or near large bodies of water.

9. **Pseudemys mobiliensis** Holb. *Mobilian.*

Common, but principally confined to the southern sections.

10. **Pseudemys alabamiensis.** *Alabama Terrapin.*

Fairly common; occurring especially along the eastern coast lines.

11. **Pseumdemys floridana** Le Conte. *Florida Terrapin.*

Like the preceding, chiefly inhabiting the bayous and lagoons of the southeastern parts of the state. It is fairly common.

12. **Pseudemys troostii** Holb. *Troost's Mobilian.*

Common in all parts of the state. I have seen as many as fifty-four large specimens taken from a single alligator hole.

13. **Pseudemys elegans** Prince Max von Neu Wied. *Mobilian; Cumberland Terrapin.*

This species is one of the most common of our turtles, and in suitable places is found in all parts of the state.

14. **Malacoclemmys centrata** Daud. *Salt-water Terrapin.*

Common along the coast lines, especially in the salt-water marshes.

15. **Malacoclemmys kohnii** Baur. *Kohn's Terrapin.*

A species first described by Dr. Baur and named by him in honor of Mr. Gustave Kohn, of New Orleans. It is fairly common in the marshes of southwestern Louisiana.

16. **Malacoclemmys intermedia** Baur.

Like the preceding, it chiefly inhabits the southern and southwestern parts, where it is fairly common.

17. **Malacoclemmys pulchra** Baur.

I have only seen this and the following species in the collection of Mr. Kohn. It was obtained from Mermentau, La.

18. **Malacoclemmys oculifera** Baur.

A handsome species, occurring in the marshes of southwestern Louisiana, whence it is brought to the French Market, New Orleans, along with shipments of other turtles, and where Mr. Kohn secured the specimens in his collection.

19. **Chrysemys dorsalis** Agassiz. *Southern Painted Turtle.*

Another handsome species of fairly general distribution in the state west of the Mississippi. It is not common. I have only seen one specimen in Catahoula parish, and another on Brown's Bayou, in Franklin parish.

20. **Hirochelys reticulata** Bosc.

Not very common, but occurring in nearly every part of the state.

Family TESTUDINIDÆ.

21. **Terrapene major** Agassiz. *Box Turtle.*

Common in almost every section of the state, especially in low places in the pine regions.

22. **Terrapene triunguis** Agassiz. *Three-toed Box Turtle.*

Common in the marshes of the southern and south-western sections, replacing there, in a measure, *T. major.*

23. **Xerobates polyphemus** Daud. *Gopher.*

Common in the pine-wood sections, where they are captured in pits dug near their burrows, and into which they fall when in quest of food at night time.

Order CROCODILIA.

Family CROCODILIDÆ.

1. **Alligator mississippiensis** Daud. *Alligator.*

While still common in some localities, persistent persecu-

tion has effectually exterminated this reptile in others, and not many years will suffice to render this once abundant creature a curiosity in our state. A twelve-foot alligator is already a curiosity, and the largest taken within the past twenty years was killed in Bayou Lafourche in July, 1884. It measured 14 feet 9 inches.

VII.

THE AVIFAUNA OF LOUISIANA.

GEO. E. BEYER.

(Communicated March 3, 1899).

Although the natural history of the birds of North America in general, as well as that of several of the individual states of our Union, has been well worked up time and again, no effort, so far as I have been able to ascertain, has been made to define the extent and distribution of feathered life within the limits of Louisiana, almost all material in ornithology pertaining to the state having been incorporated with other and more general works on the subject.

We find the earliest account of the bird-fauna of Louisiana in Le Page du Pratz's "Histoire de la Louisiane," published in Paris in 1758. This early historian of our state devotes a part of his second volume to an account of the plant and animal life as it appeared to him, an untutored naturalist. One chapter only treats, in a rather crude but quaint way, of the birds. His descriptions, of course, are not only faulty, and in many ways exaggerated, but his list falls far short of the number of species known to us at the present day.

Le Page only mentions and describes about 36 species, which he also endeavored to represent by illustrations. It was well that he had the forethought to furnish these illustrations with the names of the birds they were intended to represent. I am sure that the Parisians of the time must have been strongly impressed with the wonderful grotesqueness of the birds of Louisiana.

Notwithstanding the shortcomings of Le Page, we must certainly give him the credit of being, even up to this day, the only naturalist who has confined himself strictly to Louisiana in the treatment of his subject.

The knowledge of bird-life in Louisiana remained confined to Le Page's limits until the present century was well advanced, for other historians either did not trouble themselves about it at all, or mentioned it only in a very desultory manner. It was not until a Wilson, and later still an Audubon appeared on the scene, and devoted their lives to the subject of ornithology, that we become more acquainted with the actual extent of this class of vertebrates in this country in general, and Louisiana in particular. The material collected in Louisiana by these two famous workers was incorporated by them in their comprehensive works on the birds of North America. The first—"American Ornithology," by Alexander Wilson, appeared in 1814; the second—"Ornithological Biography," by Audubon in 1838, which was subsequently enlarged in 1844 to the now famous "Birds of America."

Almost contemporaneous with Audubon's work, appeared "A Manual of the Ornithology of the United States," by Nuttall, of which two editions were issued; one in 1832, and the other in 1840. In 1872 appeared for the first time, "A Key to North American Birds," by Dr. Elliot Coues, and in 1884 "The birds of North America," by Baird, Brewer and Ridgway. All of these works contain references to records made in Louisiana, but no author appeared to emulate Le Page's example, except one, L. von Reitzenstein, who wrote and published during 1883 a number of articles under the title of "Birds of Louisiana," in the Sunday editions of the New Orleans Times-Democrat. As, however, these papers were intended more for the amusement of the subscribers to that newspaper, and the author permitted too many exaggerations and too much fiction to enter into the various biographies, his endeavors fell far short in value to be regarded as a work of scientific character and merit.

The literature on the ornithology of Louisiana is therefore wanting, and we are standing, in this respect, far behind the work accomplished in other states, as for instance: Long Island and New York, whose bird-faunas were published as early as 1844 by Giraud and DeKay respectively.

While Louisiana has, at times, possessed observers and collectors, ardent and accomplished enough to pursue their favorite study with fair success, they have, unfortunately, failed to publish the results of their work either in a satisfactory and systematic manner, or altogether.

The annexed catalogue of the birds of Louisiana is the result of personal observation and collecting during fully six-

teen years within the limits of our state. In the pursuit of the study of ornithology I have visited nearly every section of the state at different seasons of the year, and in this way learned to understand the variation of bird-life effected by the annual spring and fall migrations. During the spring and summer months of 1886 I made the first extended tour, partly in a pirogue and partly overland, through the entire section covered by the parishes of St. James, St. John the Baptist, St. Charles, Jefferson, Orleans, Plaquemine and St. Bernard. In 1888, from the 8th April to the 28th July, I traversed on foot all parishes north of Lake Maurepas and Lake Pontchartrain, east of the Mississippi, with the exception of West Feliciana, establishing on this trip alone the records of 89 species, or over one-half of the breeding birds of the state. To enumerate other trips, more or less extensive, which were made during the following years would be too tedious and altogether superfluous.

The geographic location on the southern border of North America, and the semi-tropical climatic conditions of Louisiana fully account for the fact that at one period of the year or other, at least one-third of the species of the entire avifauna of North America finds refuge within her precincts. The avifauna of North America is almost distinctly divided into three great sections: the eastern, or Atlantic; the western, or Pacific, and the middle, or Mississippi Valley section. Each is more or less distinct from the other in certain characteristics of individual species, and the boundaries of these three geographical sections are sharply defined by natural lines. Louisiana virtually presents the southern entrance and exit of the entire Mississippi Valley section, and nearly all those birds which the rigorous climate of the north compels to migrate are forced to pass, either through the state on their way to warmer climates north of the equator, or [as in the case of the majority] may be invited to seek and find secure winter quarters within her confines.

The physical conditions of Louisiana are peculiar, for the more elevated ground is principally on the banks of the rivers. The average elevation of the state is about seventy-five feet above sea-level, and the highest parts are not much over four hundred feet. Back from the rivers are extensive swamps, which drain the arable land, and the larger rivers flow through beds of alluvial soil, which, in width, may vary from one to forty miles. The maritime coast is low and marshy, lined in its fullest extent by chains of low, sandy, or sometimes marshy

islands, and especially about the delta of the Mississippi by innumerable islets. The swamps extend inland from ten to nearly fifty miles, and the rivers or bayous often afford the only means of approaching the coast. Louisiana covers about 48,000 square miles, of which 1,050 are taken up by land-locked bays, 1,700 by inland lakes and more than 540 by river surface. This peculiar physical condition well accounts for the fact that not only one-half of the resident birds, but also the majority of winter residents are water birds.

The greater part of water-broken territory constitutes what we will call the southern portion of Louisiana, lying between the 29th and 30th degrees north. The western part of this section, between the 92nd degree and the Sabine river, is principally made up of prairie-lands, lined along the coast by salt-marshes. The eastern part, between the 92nd and 89th degrees, contains the greater part of the water-broken land, being excessively cut by rivers and bayous, which are often only secondary outlets for larger rivers or lakes, furnishing thereby the means of drainage in flood time. Of course, the entire southern section harbors, by far, the larger number of species of water-birds, either resident or migratory, to be found in the State, some of which are almost completely confined to the vicinity of the gulf waters.

Central Louisiana, between the 30th and 32d degrees north, presents a more varied topography. The southern half of this, including the whole of the parishes of Calcasieu, Acadia, Lafayette, St. Landry, St. Martin, Iberville and part of Avoyelles, Rapides and Vernon, is of a generally level conformation, excepting in a northwesterly direction, where it is hilly, and contains the outrunners of the pine and hard-wood forests of the remaining northern portion of central Louisiana.

The prairie regions of our state are unlike most of those of Texas and further west, devoid almost of wood and water, but are intersected by streams, along whose courses generally a very luxuriant growth of timber constantly exists. It is for this reason that the avifauna of the prairie regions, which, as far as the number of species is concerned, would be a very limited one, is greatly augmented by forms, which otherwise would be, more or less, restricted to the woods and highlands.

Northern Louisiana, between the 32nd and 33rd degrees north, and even the upper portions of central Louisiana, as far down as Red River Landing, is divisible into an upland and lowland section, Ouachita river being the dividing line.

The lowland region, between the Mississippi and the Ouachita, is alluvial, and therefore of recent origin. It is the product of these two rivers as well as the Arkansas, and partially subject to inundation. Heavy cypress swamps along the numerous water-courses alternate with hummock lands, in both of which the majority of land birds find abodes, either temporarily or permanently. In the immediate vicinity of the banks of the Mississippi, however, quite a number of species of waders and swimmers, and among them even Terns, etc., also spend a large part of the year breeding and rearing their young. This part of the state, therefore, somewhat resembles in bird-life the coast line of the southern section.

Western, or rather north-western Louisiana, between the Ouachita river and Texas boundary, contains some of the highest parts of the state; the vegetation consisting of both pine and hard-wood timber, the former, however, predominating. The highland is, however, in some parishes greatly broken up by numerous large lakes, which drain into Red river. This applies especially to Caddo, Bossier, Bienville and De Soto parishes. In many respects the avifauna here corresponds to that of the Florida parishes, augmented, of course, by more western forms.

The so-called Florida parishes, which now remain to be considered, constitute the entire section of the state between the 30th and 31st degrees north, and between the Mississippi and Pearl rivers, east and west, respectively. The topography of these parishes combines the physical aspects of the rest of the state already considered, with the exception of the prairie lands, and, possibly, the salt-water marshes, for the latter are only represented in a modified degree along the borders of lakes Maurepas, Pontchartrain and Borgne. Along the courses of streams only alluvial lands with heavy cypress and other timber exist, while nearly all the rest is taken up, either by pine-flats or pine-hills, the latter extending in a north-easterly direction; the former occupying the central and southern parishes.

The highlands of north-western Louisiana are represented in East Feliciana alone, and this peculiarity has also been recognized by a few species of birds, which have made this parish their breeding place in the state, east of the Mississippi river.

The result of this varied topography of the Florida parishes is: that with the exception of a comparatively small

number of species, nearly every bird belonging to the Mississippi Valley section may be found within their precincts at one time or other of the year.

Before entering into a discussion of the birds of our state themselves, it will yet be necessary to speak of some points of migration, without considering the reasons which originally prompted birds to change their home locations, and return to them with such exactness and regularity. These reasons, I believe, are already well known, but the two movements which occur in the yearly cycle of migration are so characteristically different from each other that they are deserving of some attention. It is certainly fair to assume that the locality where a bird raises its young should be regarded as its true home, whence, however, it may be driven by external influences, against which it cannot combat. That the leaving of the beloved spot, where its conjugal and parental pleasures found their culmination, must be reluctant is self-evident; hence the gradual and dilatory movements during fall migration. Inch by inch and mile by mile, as it were, the birds are driven from the vicinity of their homes, until finally, through the ever increasing rigor of climatic conditions and the diminishing food supply, they are compelled no longer to postpone the long deferred journey to distant and more congenial lands. This, I think, is the reason that, with few exceptions, migratory birds are spread over a larger area, and remain in greater distribution for a longer period during the autumn migration. It is well known to everyone who has studied the habits and peculiarities of birds how quickly the migrant can be told from the resident of the same species. The resident is at home; the migrant, on the contrary, ill at ease, and ever restless and silent. With the change of season, the delay of these more widely scattered fall migrants is no longer indulged in. The love of home becomes the all-prevailing desire, and although storms encountered on their journey may drive them back again, they only push forward with renewed vigor, and nothing short of death will deter them from again reaching their nesting places.

Along our coast-line there are various stopping places where, after a long and uninterrupted journey, the tired and worn birds remain for a few days to recuperate. They appear there from a week to ten days earlier than they will be noticed twenty-five or thirty miles further inland. Grand, Timbalier, Last and Avery's Islands afford the fatigued travelers the needed rest, and while many species and indi-

viduals pass them without stopping during fall migration, these same birds are sure to avail themselves of their hospitality on their homeward journey at the end of winter and at the expiration of their enforced exile. Of course these remarks do not apply to all migrants, for there are some species which are laggards in all their movements, and others which are altogether too erratic, and which will postpone the fulfilment of parental duties as long as possible, as for instance: the Cedar-bird (*Ampelis cedrorum* Viell.), which does not commence breeding until nearly all other birds are nearly, or altogether through with it.

According to the length of time of the year during which a species remains within certain boundaries it may be referred to one of five divisions. The avifauna proper of a state, however, consists of such birds which not only breed within her precincts, but also remain throughout the remainder of the year not occupied by parental duties. These birds constitute the "Residents."

The second division is made up of such species which, while they breed in the state, are not able to stand the changes of temperature, and whose food-supply becomes exhausted (or at least diminished) and are forced to migrate to warmer climates. Such birds are "Summer Residents." Others again, which only pass the winter but breed in another locality, are regarded as "Winter Residents," and belong to the third division.

If, however, birds neither breed nor winter, and only remain for a short period in spring and autumn, they are considered as "Migrants."

The fifth, and smallest proportion of the birds of a state, is made up of casual and rare visitors, which occur in limited numbers, or even singly once in a while, and upon whose movements within the locality no reliance can be placed.

Since, however, the instinct of migration is so strongly and permanently established in birds, and their powers of locomotion so adequately developed, no positive statement of occurrence or permanent record of the number of species for any given locality can be made, and even a hypothetical list, in which considerable latitude can be allowed, may be surpassed at any time.

American ornithology (relating, of course, only to carinated birds) is divided into eighteen orders. Seventeen of these occur in the United States and Canada; the *Sphenisci*,

containing but one family—the Spheniscidæ, or Penguins, and belonging to the southern hemisphere—being absent.

Two orders only—the *Tubinares* and *Odontoglossæ*—are missing in Louisiana, for I consider it doubtful whether the sole representative of the latter (the Flamingo) may be found in our state. There are, so far at least, no records, and those which have of late been sprung upon the ornithological world are lacking in proof, and come from observers apparently very little inclined towards scientific truth.

The remaining fifteen orders are represented by 54 families, with 190 genera and 323 species. Of these 323 species, 103 are residents, 101 winter residents, 47 summer residents, 57 migrants and 15 casual, or rare visitors.

To this total of 323, nearly 40 species should be added as likely to occur, either regularly or casually, for while we have, so far, no authentic records, the range of some species is such an extensive one that it may reach into our limits. Some species are known to be common within a few miles of our state lines, as, for instance: the Prairie Warbler (*Dendroica discolor* Viell.) which is fairly numerous at Ariel, Miss. The topography of Louisiana in that vicinity is identically the same, and it naturally follows that the bird should be just as common in our state. It appears to me in this case, but an oversight on my part in not having observed or taken it, and I have therefore included it in my list.

Both divisions—the eastern as well as the western—may help in future to swell our list; in fact, from the latter quite a number of species are reported as having been noted or taken in Louisiana, but, unfortunately, some of these records cannot be trusted, and I have therefore refrained from including them in the catalogue. Of course, if birds are naturally close neighbors to a locality to which they do not belong, it cannot be anything unusual for them to occasionally extend their habitat, but, on the other hand, the appearance of those, which are either extreme eastern or western forms, in a place far removed from their usual haunts, becomes a matter of some importance and interest, as, for instance: the occurrence near New Orleans of the Wheatear (*Saxicola œnanthe* Linn), which is really a European, or at least an extreme North American non-migratory species. We must, in such a case, at once ask how this single bird safely traversed the long distance between Greenland and this point. Other birds, it is true, do the same, but they are regular migrants, used to their voyages by inheritance and experience, and while

they travel, do so in company with others of their kind. This solitary visitor, however, had neither guide nor the protection which is afforded by numbers. When found the bird did not appear very shy, but was rather contentedly hopping around and feeding. The Surf Duck, or Scoter (*Oedemia perspicillata L.*) and the White-winged Scoter (*O. deglandi* Bonap.) are also unusual visitors, but these species have been known to extend their migration as far as St. Louis, and really belong to the northern Mississippi Valley section.

I have omitted from my list a number of sub-species, which have, as yet, either not been recognized as such, or whose identity depends upon such hair-splitting characteristics as, in my opinion, do not entitle them to the dignity of such.

In the preparation of the annexed catalogue I have been greatly assisted by Mr. Gustave Kohn, Mr. H. H. Kopman and Mr. Andrew Allison, all of New Orleans, and to whom I extend herewith my sincere acknowledgement and appreciation.

ANNOTATED LIST OF THE BIRDS OF LOUISIANA.

WATER BIRDS.

A—SWIMMERS.

Order PYGOPODES.

Family PODICIPIDÆ.

1. **Colymbus auritus** Linn. *Horned Grebe.*

A winter visitor on the coast; rarer on our inland waters.

2. **Podilymbus podiceps** Linn. *Pied-billed Grebe; Hell-diver; Dabchick.*

Resident and breeding in many sections, but more common on all waters during winter. It arrives in Louisiana as migrant at the end of October, and transients leave in March and April.

Family GAVIIDÆ.

3. **Gavia imber** Linn. *Loon.*

A winter resident; common on Gulf waters; rarer inland.

Order LONGIPENNES.

Family LARIDÆ.

4. **Larus argentatus smithsonianus** Coues. *American Herring Gull.*

Very common during the fall and winter along the coast and on all lakes of the southern portion of the state.

5. **Larus delawarensis** Ord. *Ring-billed Gull.*

Very common during the fall and winter, and frequenting the same localities as the preceding.

6. **Larus atricilla** Linn. *Laughing Gull.*

A common resident; breeding on the islands along the coast. It is the only gull which may be met with on the in-

land bayous of the northern and northwestern parts of the state. I met with it August 22, 1896, near Columbia, on the Ouachita river.

7. **Larus franklinii** Sw. & Rich. *Franklin's Gull.*

A regular but not abundant winter resident on the western Gulf coast, as far east as the mouth of the Mississippi.

8. **Larus philadelphia** Ord. *Bonaparte's Gull.*

A winter resident; arriving in the southern part of the state as early as September, leaving again in April.

9. **Gelochelidon nilotica** Hasselq. *Gull-billed Tern.*

A resident along the western coast and breeding on the islands, but rarely coming far inland. One specimen offered for sale in the French Market, New Orleans, March 12, 1889.

10. **Sterna caspia** Pallas. *Caspian Tern.*

A common resident in many localities on the Gulf coast.

11. **Sterna maxima** Bodd. *Royal Tern.*

One of the commonest terns of the state; breeding in all suitable localities on the coast; appearing inland towards the end of summer, when it is exceedingly common on lakes Pontchartrain, Maurepas, etc.

12. **Sterna sandwichensis acuflavida** Cabot. *Cabot's Tern.*

A common but not an abundant resident in the same localities as the preceding species.

13. **Sterna forsteri** Nutt. *Forster's Tern.*

Very common in most parts of the southern section of the state. It is, however, more or less a migrant; more numerous during the early fall months than at any other period of the year. One was taken as early as July 2, [1896] in Plaquemine parish.

14. **Sterna antillarum** Less. *Least Tern.*

An abundant resident in Louisiana; breeding in all suitable places along the coast.

15. **Sterna fuliginosa** Gmel. *Sooty Tern.*

A common resident wherever the preceding species occurs.

16. **Hydrochelidon niger surinamensis** Gmel. *Black Tern.*

A migrant only; very common, however, during migration.

17. **Anous stolidus** Linn. *Noddy.*

A handsome and not uncommon resident of the islands of the coast.

Family RYNCHOPIDÆ.

18. **Rynchops nigra** Linn. *Black Skimmer.*

A common resident on the coast.

Order STEGANOPODES.

Family SULIDÆ.

19. **Sula sula** Linn. *Booby.*

Of this species only a few notes have been taken, although its frequent occurrence is not at all unlikely. Two specimens (males) were shot during September, 1884, on the Mississippi, about fifty miles below New Orleans.

20. **Sula bassana** Linn. *Gannet.*

An occasional winter resident. It has been shot several times at the Rigolets (a male, December 9, 1886).

Family ANHINGIDÆ.

21. **Anhinga anhinga** Linn. *Snake-bird; Water Turkey; Anhinga.*

A common resident in most parts of the state wherever large bodies of water, fringed with trees, exist.

Family PHALACROCORACIDÆ.

22. **Phalacrocorax dilophus** Sw. & Rich. *Double-crested Cormorant*

A winter resident only; not at all common.

23. **Phalacrocorax dilophus floridanus** Aud. *Florida Cormorant.*

Common along the Gulf coast; breeding wherever it occurs

24. **Phalacrocorax mexicanus** Brandt. *Mexican Cormorant.*

A very common resident in several sections of the state.

Family PELECANIDÆ.

25. **Pelecanus fuscus** Linn. *Brown Pelican.*

Very common along the Gulf coast as well as on the lakes; breeding in large numbers on the Mississippi delta and the islands.

26. **Pelecanus erythrorhynchus** Gmel. *American White Pelican.*

A winter resident only; arriving in October and leaving during the latter part of February.

Family FREGATIDÆ.

27. **Fregata aquila** Linn. *Frigate-bird; Man-o'-war bird.*

A resident of the high seas, it breeds on the Gulf coast, but during heavy storms is frequently blown far inland.

Three were shot on August 19, 1888, almost in the heart of the city of New Orleans.

Order ANSERES.

Family ANATIDÆ.

28. **Merganser americanus** Cass. *American Merganser.*

A winter resident and fairly common on the coast; rarely staying for any length of time on our inland waters.

29. **Merganser serrator** Linn. *Red-breasted Merganser; Bec scie de Mer.*

A winter resident only, and like the preceding, preferring the vicinity of salt water during its sojourn in the state.

30. **Lophodytes cucullatus** Linn. *Hooded Merganser; Bec scie.*

A very common winter resident. A few may even breed in the state, particularly in the south-western section.

31. **Anas boschas** Linn. *Mallard; Canard Francais.*

Probably the best known of all the ducks. It is a regular winter resident in almost every part of the state; arriving in November, and leaving at the end of February or beginning of March.

32. **Anas obscura** Gmel. *Black Mallard.*

A winter resident only. It is fairly common but often confounded with the following species;

33. **Anas fulvigula** Ridgw. *Florida Duck; Canard des Isles.*

A constant resident; breeding on the Gulf coast.

34. **Chaulelasmus streperus** Linn. *Gadwall; Gray Duck; Canard Gris.*

A very common winter resident.

35. **Mareca americana** Gmel. *Bald-pate; Zin-zin.*

Common in winter.

36. **Nettion carolinensis** Gmel. *Green-winged Teal; Congotte.*

An abundant winter resident; arriving towards the middle of October and leaving early in March.

37. **Querquedula discors** Linn. *Blue-winged Teal; Sarcelle.*

Like the preceding, a winter resident only, but not as abundant; the bulk evidently going farther south, whence they return late in the spring (May 17 and 21, 1898), and are then known under the name of "Printanières."

38. **Querquedula cyanoptera** Viell. *Cinnamon Teal.*

Exceedingly rare. A pair were shot opposite Pointe-à-la-Hache in December, 1884. Another pair were killed during November, 1896, on Lake Catawatchie.*

39. **Spatula clypeata** Linn. *Shovel-bill; Micoine.*

A common winter resident.

40. **Dafila acuta** Linn. *Pin-tail; Paille en queue.*

Very common in winter.

41. **Aix sponsa** Linn. *Wood Duck; Branchu.*

An abundant resident in almost every part of the state, breeding wherever it occurs.

42. **Aythya americana** Eyt. *Red-head; Violon.*

A common winter resident, more especially in the southern sections.

43. **Aythya vallisneria** Wils. *Canvas-back; Canard Cheval.*

A common winter resident. Like the preceding species, it prefers the Gulf coast to more inland waters.

44. **Aythya marila** Stejn. *Blue-bill; Dos gris de Mer.*

A winter resident; principally on the Gulf coast.

45. **Aythya affinis** Eyt. *Lesser Scaup; Dos gris.*

One of the commonest of our winter residents.

46. **Aythya collaris** Donov. *Black Duck; Ring-Neck; Canard noir.*

An abundant winter resident, especially on the Lake and and Gulf shores.

47. **Glaucionetta clangula americana** Bonap. *Golden Eye.*

A winter resident, but not common. One was seen by Mr. H. H. Kopmann on May 5, 1896, and another [a female] was shot on June 15, 1894, by Mr. A. B. Blakemore, on Cat Island, off the coast of Mississippi, and only a few miles east of Louisiana.

48. **Charitonetta albeola** Linn. *Butterball; Buffle-head; Marionette*

A common winter resident.

49. **Clangula hyemalis** Linn. *Long-tailed Duck; Old Squaw; Cowheen.*

An accidental visitor. During the excessively cold weather of 1899, accompanied by severe snow-storms, a male in full winter plumage was shot on Bayou Barataria, about twenty miles west of New Orleans, February 13. Fortunately the duck was preserved, and is now in the museum of Tulane University.

*A male, in almost full plumage, was obtained on Lake Borgne during January, 1900. It is now in the collection of Tulane Museum.--G. E. B.

50. **Oidemia perspicillata** Linn. *Surf Scoter.*

A rare winter visitor, A male was shot on Bayou St. John, near New Orleans, March 20, 1890. The specimen was mounted, and is now in the collection of Mr. Gustave Kohn, of New Orleans.

51. **Oidemia americana** Sw. & Rich. *Black Scoter.*

An accidental visitor. It has been taken near Lake Catherine. A specimen is in the possession of Mr. Kohn.

52. **Oidemia deglandi** Bonap. *White-winged Scoter.*

An occasional winter visitor on the Gulf coast; rarely going inland.

53. **Erismatura jamaicensis** Gmel. *Ruddy Duck; Marteau.*

A very common winter resident.

54. **Chen caerulescens** Linn. *Blue Goose.*

A common winter resident along the Gulf coast.

55. **Chen hyperborea** Pall. *Lesser Snow Goose.*

An abundant winter resident on the coast.

56. **Chen hyperborea nivalis** Forst. *Greater Snow Goose.*

While not as common as the preceding, considerable numbers pass the winter on the coast. I have seen them as far west as Vermillion Bay, when they were traveling east (January, 1894).

57. **Anser albifrons gambeli** Hartl. *American White-fronted Goose.*

A winter resident. It generally arrives and departs with the Snow geese.

58. **Branta canadensis** Linn. *Canada Goose.*

Like the preceding species in its migrations, it is one of the commonest of all geese in the New Orleans markets during the winter.

59. **Branta canadensis hutchinsii** Sw. & Rich. *Hutchin's Goose.*

A winter resident; common on the coast.

60. **Branta bernicla** Linn. *Brant.*

An occasional winter visitor.

61. **Dendrocygna fulva** Gmel. *Fulvous Tree Duck.*

To my knowledge, only an occasional visitor in the early fall. Several large flocks appeared on Lake Catharine during October, 1892, when a number of them were shot.* Several other reports have been received from various places along the coast.

*This species was again taken in January, 1900, at the Rigolets.--G. E. B.

62. **Olor columbianus** Ord. *Whistling Swan.*

A winter visitor. Of late years reports of the occurrence of this and the following species have become rare.

63. **Olor buccinator** Rich. *Trumpeter Swan.*

Of the two swans, this species is the commoner, especially on the marshes of the Mississippi delta.

B—WADERS.

Order HERODIONES.

Family PLATALEIDÆ.

64. **Ajaja ajaja** Linn. *Roseate Spoonbill.*

A resident only in the southwestern portion of the state, chiefly in Calcasieu and Cameron parishes, where it is a common breeder, according to Mr. McIlhenny, who has collected there numerous specimens and eggs. Two young ones, in immature plumage, were shot in December, 1884, on the Mississippi river, about five miles below New Orleans.

Family IBIDIDÆ.

65. **Guara alba** Linn. *White Ibis.*

A common resident in Louisiana, especially in the southwestern section.

66. **Guara rubra** Linn. *Scarlet Ibis.*

I have never seen this species in the state, although it is not unlikely that it occurs. All reports, so far, will, I think, bear verification.*

67. **Plegadis autumnalis** Hasselq. *Glossy Ibis.*

A resident in the same sections as the Roseate Spoonbill, but not as common as the following species.

68. **Plegadis guaranna** Linn. *White-faced Glossy Ibis.*

Resident and breeding in southwestern Louisiana. I noticed several small flocks on Lake Prieu, Calcasieu parish, during September, 1898.

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*I have included this species in the general list more on the authority of Audubon, otherwise it should really be placed in the hypothetical list.—G. E. B.

Family CICONIIDÆ.

69. **Tantalus loculator** Linn. *Wood Ibis.*

A resident in many parts of the state, it has, however, entirely disappeared from certain localities, where, a few years ago, it was abundant.

Family ARDEIDÆ.

70. **Botaurus lentiginosus** Montag. *Bittern; Garde-soleil.*

Resident in limited numbers, but very common as a winter resident.

71. **Ardetta exilis** Gmel. *Least Bittern; Shyte Poke.*

An abundant resident in all marshy sections of the state.

72. **Ardea herodias** Linn. *Great Blue Heron; Poor Joe.*

A resident in all marshy localities, especially along the coast and on the borders of the lakes.

73. **Ardea egretta** Gmel. *Great White Egret.*

An abundant resident in all marshy sections.

74. **Ardea candidissima** Gmel. *Snowy Egret.*

Once exceedingly common, and breeding in large colonies in all swampy parts of the state, this species has been nearly exterminated of late years.

75. **Ardea rufescens** Gmel. *Reddish Egret.*

A common resident along the coast during summers in the southern and southwestern parts, but, like the following, it is more or less migratory in fall and winter.

76. **Ardea tricolor ruficolis** Gosse. *Louisiana Egret; Louisiana Heron.*

A summer resident in the same localities as the preceding.

77. **Ardea cœrulea** Linn. *Little Blue Heron.*

The most common of all the Herons. A summer resident; occurring in all suitable localities and in almost every section.

78. **Ardea virescens** Linn. *Green Heron; Cap-cap.*

An abundant summer resident almost everywhere in the state.

79. **Nycticorax nycticorax nævius** Bodd. *Black-crowned Night Heron; Gros bec.*

A common resident; breeding in the state.

80. **Nycticorax violaceous** Linn. *Yellow-crowned Night Heron.*

Exceedingly common in summer in marshy localities; breeding in large numbers.

Order PALUDICOLÆ.

Family GRUIDÆ.

81. **Grus americana** Linn. *Whooping Crane.*

Common along the coast during winter.

82. **Grus mexicana** Muell. *Sandhill Crane.*

A resident along the coast, where it occurs in large numbers.

Family RALLIDÆ.

83. **Rallus Elegans** Aud. *King Rail.*

An abundant winter resident, and much esteemed as a game bird.

84. **Rallus crepitans** Gmel. *Clapper Rail.*

A very common resident in the salt marshes; breeding wherever found.

85. **Rallus crepitans saturatus** Ridgw. *Louisiana Clapper Rail.*

A resident in the salt marshes of the coast; so far, however, only a few specimens have been secured, the species having only been established within little more than ten years.

86. **Rallus virginianus** Linn. *Virginia Rail.*

A common winter resident; arriving from its breeding places rather late in the fall. It leaves the southern section of Louisiana about the end of March.

87. **Porzana carolina** Linn. *Carolina Rail; Sora.*

Like the preceding, a common winter resident; arriving, however, much earlier in the fall, but departing in the spring about the same dates.

88. **Porzana noveboracensis** Gmel. *Yellow Rail; Rice-field Rail.*

Rather a common fall and winter resident throughout the rice-producing sections, especially along the Mississippi, where hunting dogs very frequently catch them alive.

89. **Porzana jamaicensis** Gmel. *Black Rail.*

Notwithstanding continuous efforts made during the last sixteen or seventeen years, I have never obtained this species, although it undoubtedly occurs in Louisiana. Wherever it does occur, it is not apt to be overlooked. Throughout Central America it is very common, and I have very often obtained four and five in a single morning hour.

90. **Ionornis martinica** Linn. *Purple Gallinule.*

One of Louisiana's handsomest birds. It is an abundant resident in all marshy sections; breeding wherever it occurs.

91. **Gallinula galleata** Licht. *Florida Gallinule; Ralle Poule d'eau.*

Common resident; breeding principally in the southern sections.

92. **Fulica americana** Gmel. *Coot; Poule d'eau.*

An abundant resident. It is not unlikely that a few remain throughout the year and breed. I have seen them in small flocks on Lakes Salvador and Catawatchie, as late as April 26, evidently as much at home as ever.*

Order LIMICOLÆ.

Family PHALAROPODIDÆ.

93. **Phalaropus tricolor** Viell. *Wilson's Phalarope.*

Rather an unusual migrant in spring.

Family RECURVIROSTRIDÆ.

94. **Recurvirostra americana** Gmel. *Avocet.*

A migrant only. I have shot but one specimen [a female, November 12, 1889], on Bayou St. John, near New Orleans, almost on the identical spot where Audubon obtained one of his specimens.

95. **Himantopus mexicanus** Muell. *Black-necked Stilt.*

A resident in some sections of the state; more generally distributed during the fall and winter, and occurring then in localities where it does not breed.

Family SCOLOPACIDÆ.

96. **Philohela minor** Gmel. *Woodcock.*

Very common during winter in suitable localities, and breeding in isolated places in various sections of the state. I found them mating in the middle of January, 1890, a few miles from Madisonville, and on January 29th, of the same year my dog retrieved a young one, but a few days old, near Covington. It is very common in winter on Avery's Island.

97. **Gallinago delicata** Ord. *Wilson's Snipe.*

An abundant fall and spring resident, migratory, however, during winter, and not returning until the end of February, when it remains in large numbers until April.

98. **Macrorhamphus scolopaceus** Say. *Long-billed Dowitcher; Dormeiul.*

An abundant winter resident along the coast and in other suitable localities.

*Mr. Kopman has seen them still later (May 18, 1898,) in Plaquemine parish.—G. E. B.

99. **Macrorhamphus griseus** Gmel. *Red-breasted Snipe.*

A winter visitor; often associating with the preceding.

100. **Micropalama himantopus** Bonap. *Stilt Sandpiper.*

This species occurs only as a migrant and in limited numbers. While in Louisiana, it generally associates with other more numerous Sandpipers.

101. **Tringa canutus** Linn. *Knot.*

Rare; only a few specimens have been obtained in fifteen years collecting.

102. **Tringa maculata** Viell. *Pectoral Sandpiper.*

An exceedingly common migrant. To our Creole sportsmen, this and several other species are known under the name "Chorook," and sold in great numbers in the markets of New Orleans.

103. **Tringa fuscicollis** Viell. *White-rumped Sandpiper.*

A common migrant; coming and going with the preceding species.

104. **Tringa bairdii** Coues. *Baird's Sandpiper.*

Not as common as the preceding, but it is generally found with flocks of Pectoral and others.

105. **Tringa minutilla** Viell. *Least Sandpiper.*

Very common during migration.

106. **Tringa alpina pacifica** Coues. *Red-backed Sandpiper.*

A winter resident along the Gulf coast, where I obtained it in January, 1894, on Freshwater Bayou, Calcasieu parish.

107. **Ereunetes pusillus** Linn. *Semipalmated Sandpiper.*

A very common migrant. With most of the other Sandpipers it is commonly found on the mud-flats of the lakes and rivers.

108. **Calidris arenaria** Linn. *Sanderling.*

A regular migrant on the coast; at times very common.

109. **Limosa fedoa** Linn. *Marbled Godwit.*

A migrant and winter resident on the coast.

110. **Limosa haemastica** Linn. *Hudsonian Godwit.*

Migrates southward chiefly through the interior. Mr. Kohn has in his possession two specimens, one of which was shot at Vinton, Calcasieu parish, April 22, 1895, the other he obtained in New Orleans September 27 of the same year.

111. **Totanus melanoleucus** Gmel. *Greater Yellow-legs.*

Fairly common as a migrant, but numbers also pass the winter on the coast.

112 **Totanus flavipes** Gmel. *Lesser Yellow-legs.*

In its movements, much like the preceding, and very common.

113. **Helodromus solitarius** Wils. *Solitary Sandpiper; Swee-Sweet.*

An abundant migrant; one of the early arrivals in September, but, on spring migration, sometimes leaving as late as the beginning of May [May 6, 1897].

114 **Symphemia semipalmata inornata** Brewster. *Western Willet; Tell-Tale.*

A common resident of the coast.

115. **Bartramia longicauda** Bechst. *Bartram's Sandpiper; Papabotte.*

An abundant fall and spring migrant; eagerly hunted and highly prized in lower Louisiana as a game bird. It arrives from its breeding places as early as the middle of July, and leaves in spring as late as May 20.

116. **Tryngites subruficollis** Viell. *Buff-breasted Sandpiper.*

Excepting on the coast-line, where it is said to be abundant in winter, this species must be regarded as a rare migrant in other parts of the state. I have obtained it but once in Louisiana [October, 1887], when I secured two specimens out of a flock of eight, on the so-called Racket-greens near New Orleans.

117. **Actitis macularia** Linn. *Spotted Sandpiper.*

Very common as a migrant, but numbers remain to breed. I have found it breeding along most of the old drainage canals of New Orleans.

118. **Numenius longirostris** Wils. *Long-billed Curlew; Corbigeau.*

A common winter resident; especially on the coast.

119. **Numenius borealis** Forst. *Eskimo Curlew.*

A migrant only; very common for a short while in fall and spring.

120. **Numenius hudsonicus** Lath. *Hudsonian Curlew.*

A migrant in most parts of the state, but resident along the coast in winter.

Family CHARADRIIDÆ.

121. **Charadrius squatarola** Linn. *Black-bellied Plover.*

A rare bird in most parts of the state. I noticed a flock of twelve or fifteen on the 2nd of March, 1890, at Pointe-à-la-Hache. I have been informed that it is common on the southwest coast of the state.

122. **Charadrius dominicus** Muell. *Golden Plover.*

Fairly common during migration.

123. **Aegialitis vocifera** Linn. *Killdeer.*

In limited numbers resident throughout the state during the summer, but a most abundant winter resident along the coast and on the banks of the Mississippi.

124. **Aegialitis wilsonia** Ord. *Wilson's Plover.*

A common resident and breeding on the coast.

125. **Aegialitis semipalmata** Bonap. *Semipalmated Plover.*

Exceedingly common during migration; numbers wintering along the coast.

126. **Aegialitis meloda** Ord. *Piping Plover.*

A rare migrant. I obtained but one specimen among a flock of Semipalmated in October, 1893, on Lake Pontchartrain.

127. **Aegialitis meloda circumcincta** Ridg. *Belted Piping Plover.*

This sub-species of the Piping Plover is not as abundant during migration as the Semipalmated, yet fairly large flocks may be seen on the mud-flats of Lake Borgne and along the coast.

128. **Aegialitis nivosa** Cass. *Snowy Plover.*

Rare, except along the coast, where it occurs during some seasons in fairly large numbers.

Family APHRIZIDÆ.

129. **Arenaria interpres** Linn. *Turnstone.*

Fairly common on the coast throughout the year.

Family HÆMATOPODIDÆ.

130. **Hæmatopus palliatus** Temm. *American Oyster-catcher.*

A common resident on the coast.

LAND BIRDS.

Order GALLINÆ.

Family TETRAONIDÆ.

131. **Colinus virginianus** Linn. *Bob-white; Quail.*

An abundant resident everywhere in the state.

132. **Tympanuchus americanus** Reich. *Prairie Chicken.*

Resident and breeding only in the southwestern portion of the state.

Family PHASIANIDÆ.

133 **Meleagris gallopavo fera** Viell. *Wild Turkey.*

Resident and breeding in many sections of the state.

Order COLUMBÆ.

Family COLUMBIDÆ.

134. **Ectopistes migratorius** Linn. *Passenger Pigeon.*

An occasional visitor during severe winters, and then only in small numbers.

135. **Zenaidura macroura** Linn. *Carolina Dove.*

An abundant resident in every part of the state.

136. **Columbigallina passerina terrestris** Chapman. *Ground Dove.*

A resident, but it cannot be said to be a common bird at all times.

137. **Melopelia leucoptera** Linn. *White-ringed Dove.*

This bird has been twice reported to me from Grand Island; once during May 1894, and the second time during August 1895. They were shot on both occasions, but on account of the heat could not be kept for preservation by the hunter.

Order RAPTORES.

Family CATHARTIDÆ.

138. **Cathartes aura** Linn. *Turkey Buzzard.*

An abundant resident everywhere.

139. **Catharista urubu** Viell. *Black Vulture; Carrion Crow.*

Like the preceding species, an abundant resident in all parts of the state.

Family FALCONIDÆ.

140. **Elanoides forficatus** Linn. *Swallow-tailed Kite.*

In some sections a fairly common summer resident; principally along the bayous. During the early part of September, it may be seen on the shores of Lake Pontchartrain, Lake Borgne, etc., in flocks of fifteen or twenty individuals.

141. **Elanus leucurus** Viell. *White-tailed Kite.*

An accidental visitor. On October 11, 1890, I shot one on the right bank of the Mississippi, opposite Kenner. This is, to my knowledge, the only record for Louisiana.

142. **Ictinia mississippiensis** Wils. *Mississippi Kite.*

A common summer resident in almost every part of the state.

143 **Circus hudsonius** Linn. *Marsh Hawk.*

A common resident; especially on the prairies.

144. **Accipiter velox** Wils. *Sharp-shinned Hawk.*

Chiefly a winter resident, but I have found it, as well as the following species, near Madisonville, St. Tammany parish, in August [Aug. 5, 1890].

145. **Accipiter cooperi** Bonap. *Cooper's Hawk.*

A winter resident. I shot a female August 2, and a male August 11, 1890, on the so-called Pine Island, near Madisonville.

146. **Parabuteo unicinctus harrisi** Aud. *Harris's Hawk.*

While I have never met with this hawk, several parties have reported it as common on the coast and some of the larger islands.

147. **Buteo borealis** Gmel. *Red-tailed Hawk; Grand Mangeur de Poulets.*

A common winter resident.

148. **Buteo borealis kriderii** Hoopes. *Krider's Hawk.*

Not common during winter.

149. **Buteo borealis harlani** Aud. *Harlan's Hawk.*

This hawk is said to breed in Louisiana, but I have only found it during winter, when it is not uncommon.

150. **Buteo lineatus** Gmel. *Red-shouldered Hawk.*

A winter resident only.

151. **Buteo lineatus alleni** Ridgw. *Florida Red-shouldered Hawk.*

One of the commonest hawks; resident and breeding throughout the state.

152. **Buteo latissimus** Wils. *Broad-winged Hawk.*

A fairly common resident and breeding.

153. **Archibuteo lagopus sancti-johannis** Gmel. *American Rough-legged Hawk.*

A not uncommon winter resident.

154. **Haliaetus leucocephalus** Linn. *Bald Eagle.*

Resident and breeding in various parts of the state.

155. **Falco peregrinus anatum** Bonap. *Duck Hawk.*

A common winter visitor; especially frequenting the marshes of the Mississippi delta, where it preys largely upon ducks and coots.

156. **Falco columbarius** Linn. *Pigeon Hawk.*

A winter resident, but never as common as the other hawks.

157. **Falco sparverius** Linn. *Sparrow Hawk.*

A very common resident everywhere in the state; breeding throughout its range.

158. **Polyborus cheriway** Jacq. *Audubon's Caracara.*

Only found along the extreme Gulf coast, west of the Mississippi; fairly common, however, wherever it occurs.

159. **Pandion haliaetus carolinensis** Gmel. *American Osprey.*

This species occurs pretty much over the entire state. It is, however, more common in the southern half, where it breeds along the shores of lakes, etc.

Family STRIGIDÆ.

160. **Strix pratincola** Bonap. *American Barn Owl.*

A fairly common resident in almost every section.

Family BUBONIDÆ.

161. **Asio wilsonianus** Less. *Long-eared Owl.*

Said to be a resident, but I have found it to occur only during winter, and then by no means very common.

162. **Asio accipitrinus** Pall. *Short-eared owl.*

A fall and winter resident; much commoner than the preceding species, especially frequenting the prairies; flying low over the ground in daytime.

163. **Syrnium nebulosum** Forst. *Barred Owl.*

I believe that this owl occurs only during the winter in Louisiana; leaving, as a rule, early in February and March.

164. **Syrnium nebulosum alleni** Ridgw. *Florida Barred Owl.*

An abundant resident throughout the state.

165. **Nyctala acadica** Gmel. *Saw-whet Owl.*

I know of only one specimen occurring in this state, although it may be a regular but rare winter visitor. The specimen in question was shot during December, 1889, near Madisonville. The party who had killed it had nailed it against the side of his house, where I saw the remnants almost completely destroyed, during January, 1890.

166. **Megascops asio floridanus** Ridgw. *Florida Screech Owl.*

A common resident throughout the state.

167. **Bubo virginianus** Gmel. *Great Horned Owl.*

A resident throughout the state; abundant in some sections, especially in the pine-hills of the eastern parishes.

168. **Nyctea nyctea** Linn. *Snowy Owl.*

Mr. Kohn informs me that many years ago a specimen of this owl was shot at Baton Rouge. From another less reliable source [on account of possibly mistaken identity] I have the record of one being shot at Bayou des Allemands, during the winter of 1878-1879.

169. **Speotyto cunicularia hypogea** Bonap. *Burrowing Owl.*

It has been only recently that I have been able to confirm a few previous reports as to the occurrence of this bird in Louisiana, but from the accounts received from Jackson, it is quite numerous on the prairies, and it undoubtedly breeds there as well. A specimen [a male] received from Jackson, was shot there November 24, 1898.

Order PSITTACI.

Family PSITTACIDÆ.

170. **Conurus carolinensis** Linn. *Carolina Paroquet.*

It is extremely doubtful whether this bird should still be regarded as a Louisiana species. During sixteen years of collecting and observation, in almost every section of the state, I have never obtained either specimen or data, and in localities which I have thought likely to be still its habitat, the people did not know that a paroquet had ever existed in Louisiana. Tulane museum possesses a specimen, which was undoubtedly collected in Louisiana, but when or where I have been unable to determine.

Order COCCYGES.

Family CUCULIDÆ.

171. **Crotophaga ani** Linn. *Ani.*

So far, but one specimen has been secured in the state, notwithstanding that it has been several times reported from Plaquemine and St. Bernard parishes. One of three individuals was shot by a colored man near Diamond, Plaquemine parish, on July 29, 1893, and given by him in the flesh to Mr. H. L. Ballowe. The specimen is now in the collection of Tulane museum.

172. **Crotophaga sulcirostris** Swains. *Groove-billed Ani.*

An occasional visitor to the southern part of the state. A specimen taken near New Orleans several years ago is in the collection of Tulane Museum.

173. **Coccygus minor** Gmel. *Mangrove Cuckoo.*

This species is claimed to occur along the coast, but, so far, I have no confirmation.

174. **Coccygus americanus** Linn. *Yellow-billed Cuckoo.*

An abundant summer resident throughout the state.

175. **Coccygus erythrophthalmus** Wils. *Black-billed Cuckoo.*

A spring and fall migrant, and never common.

Family ALCEDINIDÆ.

176. **Ceryle alcyon** Linn. *Belted Kingfisher.*

A common resident throughout the state.

Order PICI.

Family PICIDÆ.

176. **Campephilus principalis** Linn. *Ivory-billed Woodpecker.*

A rare resident in a few sections of the state. From reliable sources I am informed that it is not uncommon along Bayou Mason, Franklin parish. Most of the reports are, however, referable to the "Log-cock."*

178. **Picus villosus audubonii** Swains. *Southern Hairy Woodpecker.*

A common resident in all parts of the state where timber exists.

179. **Picus pubescens** Linn. *Downy Woodpecker.*

Wherever the preceding species is found, this will also occur.

180. **Picus borealis** Vieil. *Red-cockaded Woodpecker.*

This is essentially a bird of the pine-woods; abundant, especially in the pine flats of St. Tammany, St. Helena, Tangipahoa and like parishes. In northwestern Louisiana it is not quite so common, and in the southwestern parts it does not occur.

181. **Sphyrapicus varius** Linn. *Yellow-bellied Woodpecker.*

A common winter resident in almost all parts of the state.

182. **Ceophlœus pileatus** Linn. *Pileated Woodpecker; Log-cock.*

A common resident in all wooded parts; preferring heavy timber to the open pine woods.

*This species has since been found in limited numbers in a swamp in Franklin parish; the author having procured seven specimens and one nest in that locality in July, 1899.--G. E. B.

183. **Melanerpes erythrocephalus** Linn. *Red-headed Woodpecker.*

An abundant summer resident, but numbers remain throughout the year.

184. **Melanerpes carolinus** Linn *Red-bellied Woodpecker.*

An abundant resident.

185. **Colaptes auratus** Linn. *Golden-winged Woodpecker; Flicker.*

A common resident in almost every section of the state.

Order MACROCHIRES.

Family CAPRIMULGIDÆ.

186. **Antrostomus carolinensis** Gmel. *Chuck-will's-widow.*

A summer resident only; arriving in Louisiana about the middle of April, and leaving about the end of August or early in September. It is fairly common and breeds throughout its range.

187. **Antrostomus vociferus** Wils. *Whippoorwill.*

A summer resident only in the northwestern part of the state, but occuring further south during the winter.

188. **Chordeiles virginianus** Gmel. *Night Hawk.*

An abundant summer resident; known throughout the state as "Bullbat." The new sub-species *(Cordeiles. virginianus chapmani* Sennet) has, so far, not been taken by me.

Family MICROPODIDÆ.

189. **Chætura pelagica** Linn. *Chimney Swift.*

An abundant summer resident; arriving from its winter quarters, in almost all of the Central American states, in the beginning of March.

Family TROCHILIDÆ.

190. **Trochilus colubris** Linn. *Ruby-throated Humming Bird.*

A common summer resident, but during mild winters a few remain within our precincts.

Order PASSERES.

Family TYRANNIDÆ.

191. **Milvulus forficatus** Gmel. *Scissor-tailed Flycatcher.*

This species can only be regarded as an occasional visitor, especially during the fall months. The last note I have of its occurrence is October 6, 1889, when I saw a flock of ten near Kenner.

192. **Tyrannus tyrannus** Linn. *Kingbird; Gros Grasset.*

An abundant summer resident. Breeding.

193. **Myiarchus crinitus** Linn. *Great Crested Flycatcher.*

A common summer resident. Breeding.

194 **Sayornis phœbe** Lath. *Phœbe; Pewee.*

A common resident in winter. So far, the earliest date of arrival is September 25; the latest date of departure, April 26.

195. **Contopus borealis** Swains. *Olive-sided Flycatcher.*

A spring and fall migrant; not very common. Mr. H. L. Ballowe secured one at Diamond, Aug. 31, 1894.

196 **Contopus virens** Linn. *Wood Pewee.*

A common summer resident; breeding. The earliest date of arrival at New Orleans station is March 27, 1897, and the latest date of departure, October 26, 1896.

197. **Empidonax flaviventris** Baird. *Yellow-bellied Flycatcher.*

A spring and fall migrant; tolerably common.

198. **Empidonax virescens** Viell. *Acadian Flycatcher.*

A common summer resident in almost all parts of the state; breeding throughout its range. It arrives in April (April 8, 1898) and leaves in October (October 10, 1898).

199. **Empidonax traillii alnorum** Brewster. *Alder Flycatcher.*

Fairly common during spring and fall migration.

200. **Empidonax minimus** Baird. *Least Flycatcher.*

Like the preceding, only a migrant; fairly common.

Family ALAUDIDÆ.

201. **Otocoris alpestris** Linn *Horned Lark.*

This species probably occurs only as an accidental, rather than a regular winter visitor. Mr. Kohn secured it January 6, 1879, on the lake shore, at Mandeville. A number of them were seen.

Family CORVIDÆ.

202. **Cynanocitta cristata** Linn. *Blue Jay.*

An abundant resident throughout the state.

203. **Corvus americanus** Aud. *Common Crow.*

A common resident.

204. **Corvus ossifragus** Wils. *Fish Crow.*

An abundant resident in the state; especially in the southern part. Breeding wherever it occurs.

Family ICTERIDÆ.

205. **Dolichonyx oryzivorus** Linn. *Bobolink.*

Rather an irregular bird in its movements, but, now and then, occurring in immense flocks during migration. The earliest date of arrival within our limits was April 4, 1896, when I saw two on Avery's Island. On May 26, 1890, I secured, on the shore of Lake Pontchartrain, a female in full plumage and with ovaries fully developed. I shot her carrying a piece of dried grass.

206. **Molothrus ater** Bodd. *Cow-bird.*

An abundant winter resident.* A smaller resident form has been reported to me by Mr. H. H. Kopman, as breeding in St. James and St. Mary's parishes. This form, however, may prove to be *M. ater obscurus* Gmel.—Dwarf Cow-bird.

207. **Xanthocephalus xanthocephalus** Bonap. *Yellow-headed Blackbird.*

A winter resident in the southwestern parts only, especially in Cameron parish. It has never, to my knowledge, been noted as occurring in this state, on the east bank of the Mississippi.

208. **Agelaius phœniceus** Linn. *Red-winged Blackbird; Rice-bird.*

An abundant resident nearly throughout the state; breeding abundantly along the watercourses and sea coasts of the southern section.

209. **Sturnella magna** Linn. *Field-lark.*

A common resident all over the state.

210. **Icterus spurius** Linn. *Orchard Oriole; Pape de Prairie.*

A common summer resident; breeding wherever it occurs.

211. **Icterus galbula** Linn. *Baltimore Oriole; Pape Aurore.*

Fairly common during spring and fall migration in most parts of the state. It is also a summer resident; breeding in East Feliciana and northward.

212. **Scolecophagus carolinus** Muell. *Rusty Blackbird; Rusty Grackle.*

An abundant winter resident; remaining until late into spring (May 2, 1897).

213. **Scoleophagus cyanocephalus** Wagl. *Brewer's Blackbird.*

Although a Western species, it is not of unusual occurrence during the winter in the southern part of the state. I have noted and taken it on several occasions.

*During the summer of 1899 I found this species a common breeder in northern Franklin Parish.—G. E. B.

214. **Quiscalus quiscula** Linn. *Purple Grackle.*

Resident and breeding, but rather locally confined. I have noted it commonly in East and West Baton Rouge and St. Tammany parishes.

215. **Quiscalus quiscula aglæus** Baird. *Florida Grackle.*

A common resident and breeding. Of the three Grackles it is the commonest in the state.

216. **Quiscalus quiscula æneus** Ridgw. *Bronzed Grackle.*

Resident and breeding. I have found this sub-species, as well as the two preceding, breeding in the gum swamps on the edge of the lake marshes near Madisonville, St. Tammany parish.

217. **Quiscalus major** Viell. *Boat-tailed Grackle.*

An abundant resident in the southern portion of the state, especially in the marshes.

Family FRINGILLIDÆ.

218. **Carpodacus purpureus** Gmel. *Purple Finch.*

A regular winter resident in most parts of the state; common, however, only during severe winters.

219. **Astragalinus tristis** Linn. *American Goldfinch.*

An abundant winter resident, especially during severe winters.

220. **Astragalinus pinus** Wils. *Pine Siskin.*

A fairly regular winter resident throughout the pine-woods parishes.

221. **Passer domesticus** Linn. *English Sparrow.*

Has now fairly taken possession of that section of the state along the Mississippi river, but the northeastern and northwestern portions seem, as yet, to be free from it.

222. **Poœcetes gramineus** Gmel. *Vesper Sparrow.*

A fairly common winter resident; arriving in September, although one record is as early as August 5 (1893).

223. **Ammodramus sandwichensis savanna** Wils. *Savanna Sparrow.*

An abundant winter resident throughout the state.

224. **Ammodramus savannarum passerinus** Wils. *Grasshopper Sparrow.*

This little sparrow is an abundant summer resident in all parts of the state, and its quaint song may be heard almost throughout the year; for even during some winters it is quite common.

225. **Ammodramus leconteii** Aud. *Le Conte's Sparrow.*

A winter resident. I have found it rather common on Avery's Island during January.

226. **Ammodramus caudacutus** Gmel. *Sharp-tailed Sparrow.*

Common in the salt-marshes of the coast. I have found it quite common on the so-called "floating prairies" of Lake Pontchartrain.

227. **Ammodramus maritimus** Wils. *Seaside Sparrow.*

Very common on the coast, especially in the salt-marshes, and on the borders of the lakes.

228. **Chondestes grammacus** Say. *Lark Finch.*

Although rather more of a western prairie form, this species has been found quite common in several parts of the state, and is a fairly regular breeder. It has been obtained in Madison and Plaquemine parishes.

229. **Zonotrichia leucophrys** Forst. *White-crowned Sparrow.*

While this species is a regular winter resident in Louisiana, it cannot be regarded as very common.

230. **Zonotrichia albicollis** Gmel. *White-throated Sparrow.*

A much more abundant winter resident than the preceding species.

231. **Spizella socialis** Wils. *Chipping Sparrow.*

Resident in the pine-woods; abundant in winter.

232. **Spizella pusilla** Wils. *Field Sparrow.*

A common winter resident; chiefly in the pine-woods.

233. **Junco hyemalis** Linn. *Junco; Slate-colored Snow-bird.*

A regular, but not common winter resident. Mr. Otto Wideman reported it to me from Mandeville on March 2, 1897.

234. **Peucæa æstivalis bachmanii** Aud. *Bachman's Sparrow.*

This species, although not uncommon in the pine-woods, seems to select its habitat with more care than any other species of sparrow that I know of. I have always noticed that in any given locality, of apparently similar characteristics, only one or more parts would be tenanted by Bachman's Sparrow. It breeds wherever it occurs.

235. **Melospiza fasciata** Gmel. *Song Sparrow.*

A winter resident in the pine-woods, but chiefly a migrant.

236. **Melospiza georgiana** Lath. *Swamp Sparrow.*

An abundant winter resident throughout the state, staying late into spring (May 3, 1898).

237. **Passerella iliaca** Merr. *Fox Sparrow.*

A fairly common winter resident in most parts of the state.

238. **Pipilo erythrophthalmus** Linn. *Towhee.*

A common winter resident in every section of the state; abundant in winter.

239. **Cardinalis cardinalis** Linn. *Cardinal; Red-bird.*

This well-known songster is an abundant resident in all parts of the state.

240. **Habia ludoviciana** Linn. *Rose-breasted Grosbeak.*

A tolerably common fall and spring migrant; arriving generally at New Orleans station during the first half of April, and again passing through during September.

241. **Guiraca cœrula** Linn. *Blue Grosbeak.*

A most abundant summer resident in some sections of the state, especially in the Florida parishes, where it is generally called "Ricebird." Flocks of thousands descend upon the ripe rice during August and September.

242. **Cyanospiza cyanea** Linn. *Indigo Bird; Eveque; Pape bleu.*

An abundant summer resident in all parts of the state.

243. **Cyanospiza ciris** Linn. *Painted Finch; Nonpareil; Pape rouge.*

Like the preceding, an abundant summer resident, but a few evidently remain throughout the winter, as I have, for several years, seen individuals during December and January.

244. **Spiza americana** Gmel. *Black-throated Bunting.*

A common migrant. It arrives during the early days of April and leaves in the beginning of May. In the fall, it passes through in September and October.

Family TANAGRIDÆ.

245. **Piranga ludoviciana** Wils. *Louisiana Tanager.*

Thus far, only one record has been obtained for this Western form in this state. The specimen was secured by Mr. Allison near New Orleans, March 19, 1898. It was identified by Dr. A. K. Fisher, of Washington, D. C.

246. **Piranga erythromelas** Viell. *Scarlet Tanager.*

A fairly common fall and spring migrant; arriving during the first days of April and leaving about the end of September.

247. **Piranga rubra** Linn. *Summer Redbird; Quaker.*

An abundant summer resident everywhere in the state; arriving during the early days of April; leaving from the mid-

dle to the end of September, a few stragglers remaining until the end of October.

Family HIRUNDINIDÆ.

248. **Progne subis** Linn. *Purple Martin.*

A common summer resident and breeding. This species seems to inaugurate, as well as speed the annual migration, for it is the first migrant to arrive and the last to leave. The earliest date of its arrival that I have been able to note was on January 29, 1890; the next earliest: January 31, 1894, and February 7, 1897. The latest date of departure, October 22, 1894.

249. **Petrochelidon lunifrons** Say. *Cliff Swallow.*

A fairly common migrant. I have, however, every reason to believe that this species breeds in limited numbers in Louisiana, as I have secured specimens in New Orleans as early as August 2, whose plumage was too immature to have stood the test of migration.

250. **Hirundo erythrogaster** Bodd. *Barn Swallow.*

Until recently, this species was not thought to breed in the state, but according to Mr. H. H. Kopman and Mr. A. B. Blakemore it does so in the vicinity of New Orleans as well as along the coast, eastward. It arrives within our precincts in March (March 20, 1894—so far, the earliest date), and generally leaves in October. Mr. Blakemore saw it as late as November 3, 1895, and Messrs. Kopman and Allison on the same date in 1896. Concerning the movements of this species Mr. Kopman furnishes me with the following interesting note: "Barn Swallow—August 4—Many males were passing, following the coast; these birds went singly. August 11—A second flight began; the birds, this time, went in loose flocks and were principally females and young. The species doubtlessly breeds in the vicinity of Beauvoir."

251. **Tachycineta bicolor** Viell. *White-bellied Swallow.*

The most abundant of all our swallows; it occurs everywhere in the state, and at all times of the year. It feeds on *Myrica cerifera*, and is called "Cirier" in the markets of New Orleans, where it is sold abundantly.

252. **Clivicola riparia** Linn. *Bank Swallow.*

A regular summer resident in some sections of the state wherever high river-banks afford nesting places.

253. **Stelgidopteryx serripennis** Aud. *Rough-winged Swallow.*

A regular summer resident; frequenting the same localities as the preceding species.

Family AMPELIDÆ.

254. **Ampelis cedrorum** Vieill. *Cedar-bird; Murier.*

In Louisiana, this species is everything but a breeder, so erratic is it in its movements. In the fall, it appears sometimes as early as October 10, then again not until the beginning of December. I have found it in large flocks in the early summer (June 3, at Madisonville).

Family LANIDÆ.

255. **Lanius ludovicianus** Linn. *Loggerhead Shrike.*

A common resident and breeding throughout the state.

256. **Lanius ludovicianus migrans** Chap. *Migratory Loggerhead Shrike.*

This sub-species is a common winter visitor throughout the state, but it is impossible to ascertain its movements, owing to its resemblance to the preceding species.

Family VIREONIDÆ.

257. **Vireo olivaceus** Linn. *Red-eyed Vireo; Grasset.*

An abundant summer resident; breeding. It arrives within our borders later than the middle of March (earliest date, March 18, 1894) and leaves in October. It feeds principally on Magnolia seeds in the fall, upon which they become exceedingly fat and well flavored.

258. **Vireo philadelphicus** Cass. *Philadelphia Vireo.*

A not very common migrant; passing through the state during April. During the fall migration it is not seen until rather late in October [October 10, 1896]. The more remarkable, therefore, is the record of Mr. H. Ballowe, who procured a specimen at Hester, St. James parish, as early as August 2, 1893.

259. **Vireo gilvus** Vieill. *Warbling Vireo.*

A fairly common summer resident throughout the state. It arrives within our precincts at the end of March [March 27, 1897], and leaves in September.

260. **Vireo flavifrons** Vieill. *Yellow-throated Vireo.*

A summer resident throughout the state, but rather more common than the preceding species. It arrives in the begin-

ning of April [April 4, 1896; April 9, 1895], but stays late into October [October 11, 1896].

261 **Vireo solitarius** Wils. *Blue-headed Vireo.*

A fairly common winter resident; arriving from beyond our southern border at the end of March [March 26, 1894; March 28, 1895] departing in September and the early days of October.

262. **Vireo noveboracensis** Gmel. *White-eyed Vireo.*

Probably the most abundant of all our Vireos; principally a summer resident, but many pass their winters within our borders.

Family MNIOTILTIDÆ.

263. **Mniotilta varia** Linn. *Black-and-white Creeper.*

An abundant migrant throughout the state, but in St. Tammany and Tangipahoa parishes I have found young birds, in fairly large numbers and scarcely able to fly, in the early days of July. I have no doubt but that they were hatched in the gum-swamps of the vicinity.

264. **Protonotaria citrea** Bodd. *Prothonotary Warbler.*

An abundant summer resident throughout the entire state; arriving within our southern border in March [earliest date for New Orleans station March 15, 1894], leaving toward the end of September.

265. **Helinaia swainsonii** Aud. *Swainson's Warbler.*

A summer resident in various parts of the state. It was obtained by Chas. Galbraith [a collector of bird-skins for millinery purposes] near Lewisburg, St. Tammany parish, in March and April, 1886 and 1887. I shot a male on June 4, 1888, near Amite, on the Tangipahoa river, and Messrs Kopman, Allison and Blakemore have found it rather common on the right bank of the Mississippi, opposite New Orleans. It has also been recorded from Bayou Sara.

266. **Helmitherus vermivorus** Gmel. *Worm-eating Warbler.*

A not very common summer resident. It arrives in the beginning of April, and leaves in September.

267. **Helminthophila bachmani** Aud. *Bachman's Warbler.*

Mr. Charles Galbraith's records, published in the Auk [Vols. IV and V], are, thus far, the only notes on this species. It is undoubtedly not only rare generally, but only a migrant as well.

268. **Helminthophila pinus** Linn. *Blue-winged Warbler.*

A migrant. It arrives within our southern borders at the end of March. During fall migration, the earliest arrivals in the state reach about the middle of August.

269. **Helminthophila chrysoptera** Linn. *Golden-winged Warbler.*

Like the preceding, a migrant only, and observing, during migration, very much the same dates of arrival and departure.

270. **Helminthophila celata** Say. *Orange-crowned Warbler.*

A fairly common, and sometimes even an abundant winter resident in the southern parts of the state from November to the beginning of March [March 11, 1894].

271. **Helminthophila peregrina** Wills. *Tennessee Warbler*

A common migrant; arriving at the end of March and beginning of April. It is, however, much more common during fall migration; reaching the southern parts of the state at the end of September [September 23, 1897—so far the earliest record], and has been, as "last," noted as late as the end of October [October 27, 1896].

272. **Compsothlypis americana** Linn. *Blue-and-yellow-backed Warbler.*

A common summer resident throughout the state; arriving in February and March [February 22, 1893—earliest date], and leaving in October [in 1895, the last was seen near New Orleans on October 19).

273. **Dendroica tigrina** Gmel *Cape May Warbler.*

For this rare warbler there is, thus far, but one record. The specimen, in question, was secured in April, 1890, on the old Orleans Canal, near New Orleans, by Mr. Erich Wittkugel.

274. **Dendroica æstiva** Gmel. *Summer Warbler.*

An exceedingly common migrant in all parts of the state; arriving in the beginning of April. During fall migration, the bulk pass through in September. I have found numbers of this species breeding near Madisonville, St. Tammany parish.

275. **Dendroica cærulescens** Gmel. *Black-throated Blue Warbler.*

A migrant, reaching our southern portions at the end of March; passing through the state again in September.

276. **Dendroica coronata** Linn. *Myrtle Warbler.*

One of the most abundant winter residents of all Louisiana's migrants; heard and seen in almost every part of the

state from October to April. The earliest date of arrival during the past seven or eight years, was October 17, 1896, and the last seen, April 27, 1897.

277. **Dendroica maculosa** Gmel. *Magnolia Warbler.*

A very common migrant throughout the state; arriving on its spring migration in the beginning of April. In 1895 the last was noticed as late as May 2. During fall migration the earliest arrival at New Orleans was September 17, 1897, and in 1895 it was still extremely common, October 19.

278. **Dendroica rara** Wils. *Cerulean Warbler.*

Fairly common during migration; less common during the summer. It breeds, however, in the state, and I have found it in Franklin and St. Tammany parishes. It arrives in March and leaves in October.

279. **Dendroica pennsylvanica** Linn. *Chestnut-sided Warbler.*

Fairly common during migration; arriving in Louisiana in the first days of April, and on the return voyage, in the fall, it passes through the state in September.

280. **Dendroica castanea** Wils. *Bay-breasted Warbler.*

Like the preceding, only a migrant, and in its movement it is also very much the same, with the exception that it seems to tarry longer on its voyage. In spring, 1897, the "last" [a pair] were noticed at New Orleans on May 5.

281. **Dendroica striata** Forst. *Black-Poll Warbler.*

Fairly common during migration; arriving in the beginning of April, and returning in the fall about the end of September, the last being usually seen October 10.

282. **Dendroica blackburniæ** Gmel. *Blackburnian Warbler.*

This beautiful species is unfortunately only a migrant in our state, and not a common one either. It enters Louisiana on its way north in April, returning, during fall migration, towards the end of September and October. The earliest arrival for fall records for New Orleans was September 24, 1897; the latest October 9, 1896.

283. **Dendroica dominica albilora** Baird. *Sycamore Warbler.*

A common summer resident and breeding throughout the state. It becomes common from the 9th to the 13th of March annually, but the earliest date of first arrival, so far, is Feb. 27, 1897. It remains with us until the latter part of September, the "last" being often observed on the 10th or 11th of October.

284. **Dendroica virens** Gmel. *Black-throated Green Warbler.*

A common migrant; entering our precincts in April, and passing through the state without delay. In the fall it arrives about the middle of September, but the latest date of the "last seen" was October 22, 1896, at New Orleans.

285. **Dendroica vigorsii** Aud. *Pine Warbler.*

An exceedingly common resident throughout the year in all parts of the state where pines grow. Breeding.

286. **Dendroica palmarum** Gmel. *Red-poll Warbler.*

A very common winter resident throughout Louisiana; arriving from its northern breeding-places during the beginning of November and leaving at the end of March and beginning of April. The earliest date of arrival and latest day of departure for New Orleans are November 6, 1894, and April 11, 1896, respectively.

287. **Dendroica discolor** Viell. *Prairie Warbler.*

Being fairly common about Centreville and Ariel, in Mississippi, not many miles from our state line, and the localities exhibiting the same characteristics, I think it merely an oversight that there is no record of this not uncommon warbler having been taken within our precincts.

288. **Seiurus aurocapillus** Linn. *Oven-bird.*

Common during migration; arriving from the south in April, the last of the spring migrants being generally noticed in the early days of May. In the fall it arrives during September, and the last have passed through by the middle of October. It is, however, a winter resident in the extreme south and southwest. I obtained it on Avery's Island in January 1894 and 1896.

289. **Seiurus noveboracensis** Gmel. *Water-Thrush.*

Like the preceding, very common during migration, especially in autumn. The latest date of departure in spring is May 7, 1897.

290. **Seiurus motacilla** Viell. *Louisiana Water-Thrush.*

A summer resident; quite common on the banks of the bayous in the Florida parishes, and the middle and northern sections.

291. **Geothlypis formosa** Wils. *Kentucky Warbler.*

A common summer resident and breeding in almost every section of the state. It first makes its appearance within our limits during the first days of April, and becomes common

about the middle of the same month. It winters south of our borders, and generally leaves during the first half of September.

292. **Geothlypis philadelphia** Wils. *Mourning Warbler.*

A spring and fall migrant only, and not very common. It arrives from the south not earlier than the middle of April. The last is usually noticed at the end of the month. In fall migration the "last" has been seen at New Orleans as late as October 7 [1896].

293. **Geothlypis trichas occidentalis** Brewst. *Western Maryland Yellow throat.*

An abundant resident throughout the state.

294 **Icteria virens** Linn. *Willow-chat; Yellow-breasted chat*

A common summer resident and breeding in most sections of the state, preferring, however, the vicinity of watercourses and is especially fond of the willow-ponds of the southern parts of Louisiana. This species never occurs within our precincts before the 15th or 18th of April, and is never common until about the end of that month, and sometimes not until the 1st or 2d of May. It leaves in August, and the last have departed before the middle of September.

295. **Wilsonia mitrata** Gmel. *Hooded Warbler.*

A common summer resident and breeder throughout the state. Its earliest arrival in spring for New Orleans, during the past eight years, was March 8, 1896; the latest date, March 23, 1895, and the bulk did not come until March 30. It leaves the state in September, and the last straggler was seen October 19 [1895].

296. **Setophaga ruticilla** Linn. *American Redstart.*

An abundant migrant in spring and fall. It reaches our southern border during the first days of April, and remains with us until the end of the month. The "last" was noted May 2 [1895]. The species is, however, one of the first arrivals of the fall migration. The earliest date on which it was seen was July 30, 1897. It became common on August 11, and the "last" had left before the end of September.

Family MOTACILLIDÆ.

297. **Anthus pennsylvanicus** Lath. *American Pipit.*

An abundant winter resident throughout the state; arriving during the latter part of October (Oct. 21, 1896—earliest date for New Orleans]; leaving during the latter half of April ["last" seen May 2, 1894].

298. **Anthus spragueii** Aud. *Sprague's Pipit.*

A common winter resident in the southern sections of the state, especially along the Mississippi. It arrives in October and leaves in April.

Family TROGLODYTIDÆ.

299. **Mimus polyglottus** Linn. *Mockingbird.*

An abundant resident in every part of the state.

300. **Galeoscoptes carolinensis** Linn. *Catbird.*

A common winter resident throughout the state; usually arriving within the state limits towards the latter part of September, the earliest date of arrival at New Orleans being September 7, 1896. During spring migration, the bulk generally pass through the state about the latter part of April, and the "last" is usually seen during the first few days of May [May 5, 1897].

301. **Harporynchus rufus** Linn. *Brown Thrasher.*

A common resident throughout the state, but rather an irregular breeder in the southern section.

302. **Thryothorus ludovicianus** Lath. *Carolina Wren.*

An abundant resident throughout the state.

303. **Thryomanes bewickii** Aud. *Bewick's Wren.*

A common winter resident, but confined to certain localities. It has, so far, been found only in St. James, Orleans and Plaquemine parishes, but it undoubtedly occurs elsewhere in the state.

304. **Troglodytes aedon** Viell. *House Wren.*

A very common winter resident, but arriving late in the fall; not usually until November.

305. **Anorthura hiemalis** Viell. *Winter Wren.*

A fairly common winter resident, but arriving late; not usually before the middle of November. The earliest date, so far, for New Orleans is November 1, 1897.

306. **Cistothorus stellaris** Licht. *Short-billed Marsh Wren.*

A winter resident and not common.

307. **Cistothorus palustris** Wils. *Long-billed Marsh Wren.*

A very common, if not abundant resident, especially in the northern part of the Florida parishes and southern section,

Family CERTHIIDÆ.

308. **Certhia familiaris fusca** Barton. *Brown Creeper.*

A transient winter visitor throughout the state, but never in great numbers. It arrives at the end of October, and the "last" usually leaves at the end of March.

Family PARIDÆ.

309. **Sitta carolinensis** Lath. *White-bellied Nuthatch.*

A common resident in the pine-hills and pine-flats, especially of eastern Louisiana.

310. **Sitta pusilla** Lath. *Brown-headed Nuthatch.*

A common resident; occupying the same range as the preceding.

311. **Parus bicolor** Linn *Tufted Titmouse.*

A common resident in many sections of the state; preferring, however, the pine-wood parishes. It is not found in the extreme southwestern section of the state.

312. **Parus carolinensis** Aud. *Carolina Chickadee.*

An abundant resident throughout the state.

Family SYLVIIDÆ.

313. **Regulus satrapa** Licht. *Golden-crowned Kinglet.*

A fairly common winter resident in many parts of the state where heavily timbered localities occur. It arrives very late in the fall, and leaves early in March.

314. **Regulus calendula** Linn. *Ruby-crowned Kinglet.*

Much more abundant than the preceding, although only a winter resident. It arrives within our borders during the latter half of October, and leaves about the middle and end of March. The latest date of its presence at New Orleans, so far noted, is April 8, 1898.

315. **Polioptila cærulea** Linn. *Blue-gray Gnatcatcher.*

A very common summer resident and breeding throughout the state. A few occasionally winter in the southern section.

Family TURDIDÆ.

316. **Hylocichla mustelinus** Gmel. *Wood Thrush; Caille Pivelee.*

Resident in summer in some localities; a common migrant in all parts of the state. It usually arrives in spring within our borders during April, the earliest date of arrival at New Orleans, so far noted, being March 26, 1898. The

latest date of departure for fall migration is October 11, 1896. This species is shot in large numbers for the New Orleans markets.

317. **Hylocichla fuscescens** Steph. *Wilson's Thrush.*

A common migrant; arriving in April, the "last" of the spring migrants being generally seen in the early part of May. It arrives again from the north in September, a few stragglers being sometimes noticed as late as the middle of October.*

318. **Hylocichla aliciæ** Baird. *Gray-cheeked Thrush.*

A common spring and fall migrant; arriving from the south in April. The earliest record for New Orleans is March 26, 1897; the bulk not appearing until May 4, and the "last" was noted May 7. In the autumn migration it leaves Louisiana during the latter half of September.

319. **Hylocichla ustulata swainsonii** Cab. *Olive-backed Thrush.*

Like the preceding, a fairly common transient in spring and autumn. It reaches the southern portion of the state in April, the last being usually noticed in the beginning of May [latest date at New Orleans—May 7, 1897]. On its autumn voyage it reaches New Orleans about September 25. The latest date of the "last"—October 9, 1894.

320. **Hylocichla aonalaschkæ pallasii** Cab. *Hermit Thrush.*

A common winter resident in the southern and southwestern parts of the state, but arriving rather late in the fall; usually not before the end of October, and the bulk do not make their appearance until the beginning of November. It departs at the end of March and beginning of April.

321. **Merula migratoria** Linn. *American Robin.*

An abundant winter resident throughout the state; arriving about the end of October and beginning of November; leaving in February and March, although stragglers often stay until far into April [latest date of "last" at New Orleans —April 21, 1895].

Family SAXICOLIDÆ.

322. **Saxicola œnanthe** Linn. *Wheatear.*§

*The but little differing Western race of this species (H. fuscescens salicicola Ridgw.—Willow Thrush) has been taken at Ariel, Miss , by Mr. A. Allison.—G. E. B.

§This species should perhaps have been placed in the "Hypothetical List," but I have preferred retaining it here on the ground that, being a not uncommon bird in the northeastern portions of the United States, it is just possible, under the recurrent waves of migration, it may again be recorded as far south as Louisiana.—G. E. B.

There is but a single record of this species for Louisiana, and perhaps for the whole of the United States, with the exception of the northeastern portions. The specimen which made this record was secured by myself on the outskirts of New Orleans, September 12, 1888. The bird was mounted and is now in the collection of Mr. Kohn.

328. **Sialis sialis** Linn. *Bluebird.*

A constant and common resident throughout the state. Since the extremely cold weather of February, 1895, their numbers have been greatly reduced. During the breeding season this species decidedly prefers the pine regions to other parts of the state.

HYPOTHETICAL SPECIES.

1. **Colymbus nigricollis californicus** Heerm. *American Eared Grebe*
2. **Larus marinus** Linn. *Great Black-backed Gull.*
3. **Sterna hirundo** Linn. *Common Tern.*
4. **Histrionicus histrionicus** Linn. *Harlequin Duck.*
5. **Dendrocygna autumnalis** Linn. *Black-bellied Tree-Duck.*
6. **Phalaropus lobatus** Linn. *Northern Phalarope.*
7. **Ereunetes occidentalis** Lawr. *Western Sandpiper.*
8. **Buteo swainsoni** Bonap. *Swainson's Hawk.*
9. **Aquila chrysaetos** Linn. *Golden Eagle.*
10. **Megascops asio** Linn. *Screech Owl.*
11. **Milvulus tyrannus** Linn. *Fork-tailed Flycatcher.*
12. **Tyrannus dominicensis** Gmel. *Gray Kingbird.*
13. **Tyrannus verticalis** Say. *Western Kingbird.*
14. **Otocoris alpestris giraudi** Hensh. *Texas Horned Lark.*
15. **Molothrus ater obscurus** Gmel. *Dwarf Cowbird.*
16. **Ammodramus sandwichensis alaudinus** Bonap. *Western Savanna Sparrow.*
17. **Helminthophila ruficapilla** Wils. *Nashville Warbler.*
18. **Dendroica dominica** Linn. *Yellow-throated Warbler.*
19. **Dendroica palmarum hypochrysea** Ridgw. *Yellow Palm Warbler.*
20. **Geothlypis agilis** Wils. *Connecticut Warbler.*
21. **Wilsonia pusilla** Wils. *Wilson's Warbler.*
22. **Sitta canadensis** Linn. *Red-bellied Nuthatch.*

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